

TC-WR770/WR875

SERVICE MANUAL

US Model
TC-WR875

AEP Model
UK Model
TC-WR770



This photo is TC-WR875.

Model Name Using Similar Mechanism	TC-WR97ES/WR870
Tape Transport Mechanism Type	TCM-200R5

SPECIFICATIONS

Recording system 4-track 2-channel stereo
Fast winding time Approx. 90 sec. (with Sony C-60 cassette)
Bias AC bias
Signal-to-noise ratio (at peak level)

Dolby NR switch	OFF	B-Type ON	C-Type ON
Cassette			
Type IV (Sony METAL-S)	58 dB	66 dB	73 dB
Type II (Sony UX-S)	57 dB	65 dB	72 dB
Type I (Sony HF-S)	55 dB	63 dB	70 dB

Total harmonic distortion 1.0% (with Sony METAL-S cassettes)

Frequency response (DOLBY NR OFF)

Type IV cassette (Sony METAL-S)	30 - 18,000 Hz (± 3 dB, IEC) 30 - 14,000 Hz [± 3 dB 0VU(-4dB) recording]
Type II cassette (Sony UX-S)	30 - 17,000 Hz (± 3 dB, IEC)
Type I cassette (Sony HF-S)	30 - 15,000 Hz (± 3 dB, IEC)

Wow and flutter $\pm 0.09\%$ W.Peak (IEC)
 0.06% WRMS (NAB)
 $\pm 0.16\%$ W.Peak (DIN)

Inputs

Line inputs (phono jacks)	Sensitivity	77.5 mV
	Input impedance	47 k ohms

Outputs

Line outputs (phono jacks)	Rated output level	0.32 V at a load impedance of 47 k ohms
	Load impedance	Over 10 k ohms
Headphones (stereo phone jack)	Output level	0 - 1.25 mW at a load impedance of 32 ohms

General

Power requirements

US model:
120V AC, 60Hz
AEP, Germany model:
220-230V AC, 50/60Hz
UK model:
240V AC, 50/60Hz

Power consumption

29 W

Dimensions

Approx. 430 x 135 x 355 mm (w/h/d)
(17 x 5 $\frac{3}{8}$ x 14 inches)
including projecting parts and controls

Weight

Approx. 6.3 kg (13 lbs 15 oz)

Supplied accessory

Audio connecting cords (2)

Design and specifications subject to change without notice.



STEREO CASSETTE DECK
SONY

FEATURES

For higher quality recording/playback

- **The Dolby HX PRO* system** which improves the linearity of the tape's high-range response during recording.
- **B and C type Dolby NR* systems** which reduce tape noise.
- **Bias calibration** to achieve the optimum bias current setting for any tape (Deck B only).

For your convenience

- **Quick reversing** at the end of a tape to minimize interruptions during playback and recording.
- **Automatic tape type detection** during playback and recording.
- **The AMS, Blank Skip and Memory Play functions** which provide easy access to a desired selection.
- **A relay function** for long recording and playback.
- **Auto Play function** which automatically starts playback after tape rewinding to start.
- **Timer-activated playback and recording** through the use of an optional timer.
- **Synchronized dubbing** at normal or high speed.
- **Simultaneous Recording function** for the simultaneous recording of the same source to cassettes in both decks.

For easier operation

- **Twin easy-to-read digital linear counters** which show the elapsed recording or playing time.

* Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

"DOLBY", the double-D symbol  and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

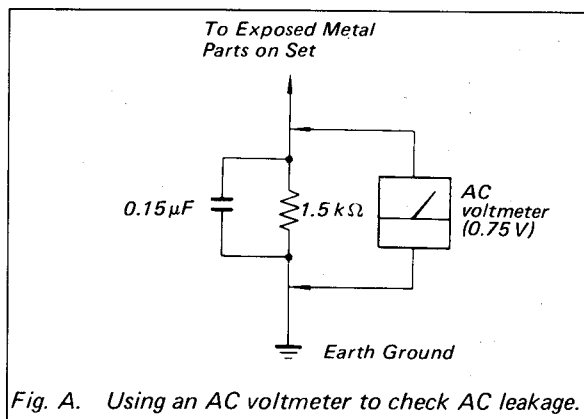


Fig. A. Using an AC voltmeter to check AC leakage.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

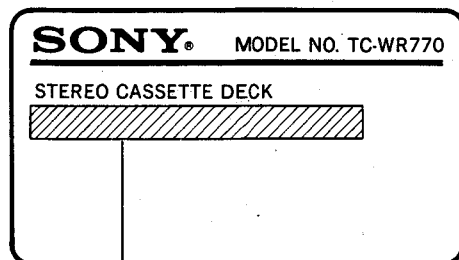
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MODEL IDENTIFICATION

— Specification Label —

TC-WR770: AEP, UK, Germany model



AEP, Germany model: AC 220V—230V ~ 50/60Hz
UK model : AC 240V ~ 50/60Hz

TC-WR875: US model

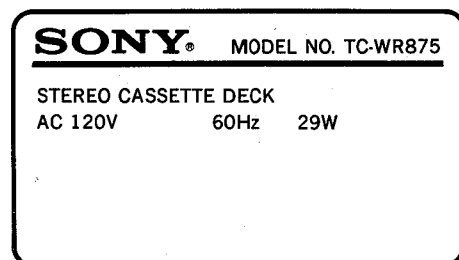
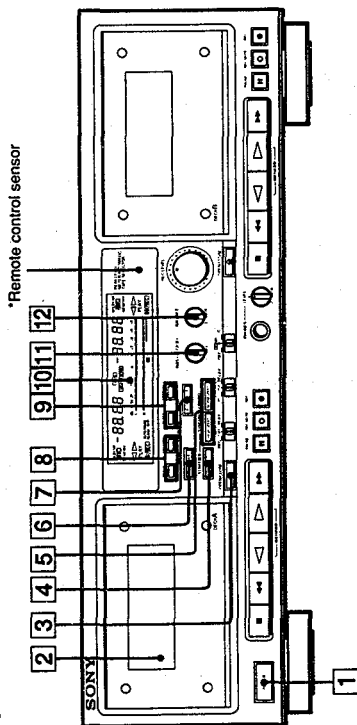


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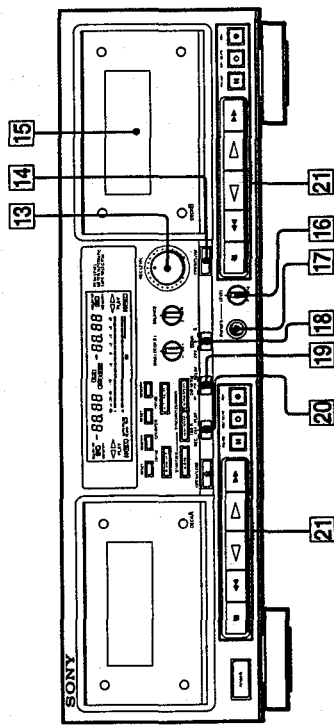
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Identification of Front Panel Parts

• TC-WR770



* Remote control sensor



For details, refer to the page number indicated in ●.

- 1 POWER switch
- 2 Deck A
- 3 OPEN/CLOSE button (deck A)
- 4 A+B REC (simultaneous recording) button
- 5 SYNCHRO DUBBING buttons
 - HIGH SPEED button
 - NORM (normal) SPEED button
 - BLANK SKIP button
- 6 AUTO PAUSE button
- 7 COUNTER buttons (deck A)
- 8 COUNTER buttons (deck B)
- 9 COUNTER buttons (deck B)
- 10 RESET button
- 11 MEMORY button
- 12 BIAS control (deck B)
- 13 BALANCE control
- 14 REC (recording) LEVEL control
- 15 REC (recording) button
- 16 OPEN/CLOSE button (deck B)
- 17 Deck B
- 18 Headphones LEVEL control
- 19 PHONES (headphones) jack (stereo phone jack)
- 20 DIR (direction) MODE switch
- 21 TIMER switch
- Tape operation buttons
 - (stop) button
 - ◀ (leftward fast winding) (AMS**)
 - ◀ (reverse play) button
 - ▶ (forward play) button
 - ▶ (rightward fast winding) (AMS**)
 - || PAUSE button
 - REC MUTE (record muling) button
 - REC (recording) button

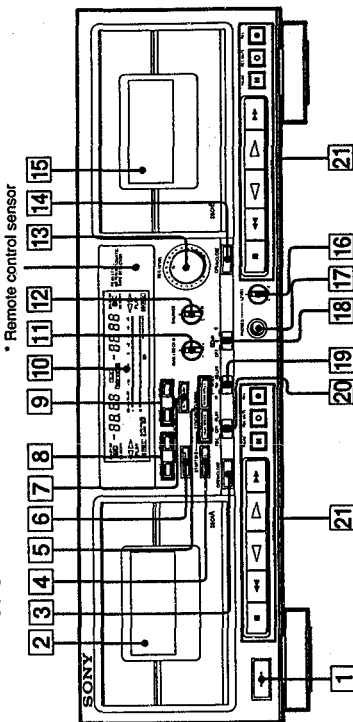
** AMS is an abbreviation for Automatic Music Sensor.

- * Remote control sensor
- You can remotely control this cassette deck with:
 - A remote commander that came with a Sony amplifier or receiver if it has the mark and cassette deck control capability.
 - Any optional Sony remote commander with the mark and cassette deck control capability.

TC-WR770/WR875

This section is extracted from instruction manual.

• TC-WR875



* Remote control sensor

For details, refer to the page number indicated in ●.

- 1 POWER switch
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- 8 COUNTER buttons (deck B)
- 9 COUNTER buttons (deck B)
- 10 RESET button
- 11 MEMORY button
- 12 BIAS control (deck B)
- 13 BALANCE control
- 14 REC (recording) LEVEL control
- 15 REC (recording) button
- 16 OPEN/CLOSE button (deck B)
- 17 Deck B
- 18 Headphones LEVEL control
- 19 PHONES (headphones) jack (stereo phone jack)
- 20 DIR (direction) MODE switch
- 21 TIMER switch
- Tape operation buttons
 - (stop) button
 - ◀ (leftward fast winding) (AMS**)
 - ◀ (reverse play) button
 - ▶ (forward play) button
 - ▶ (rightward fast winding) (AMS**)
 - || PAUSE button
 - REC MUTE (record muling) button
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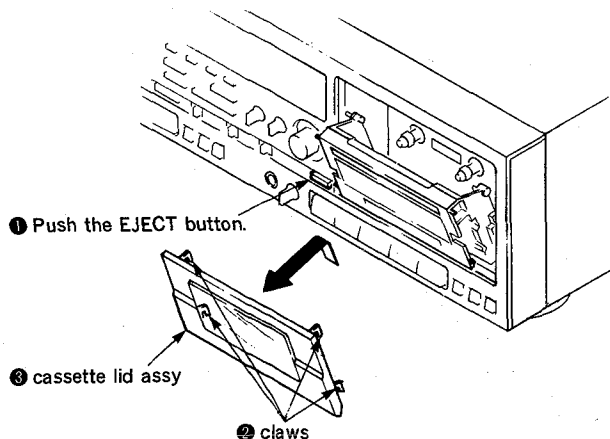
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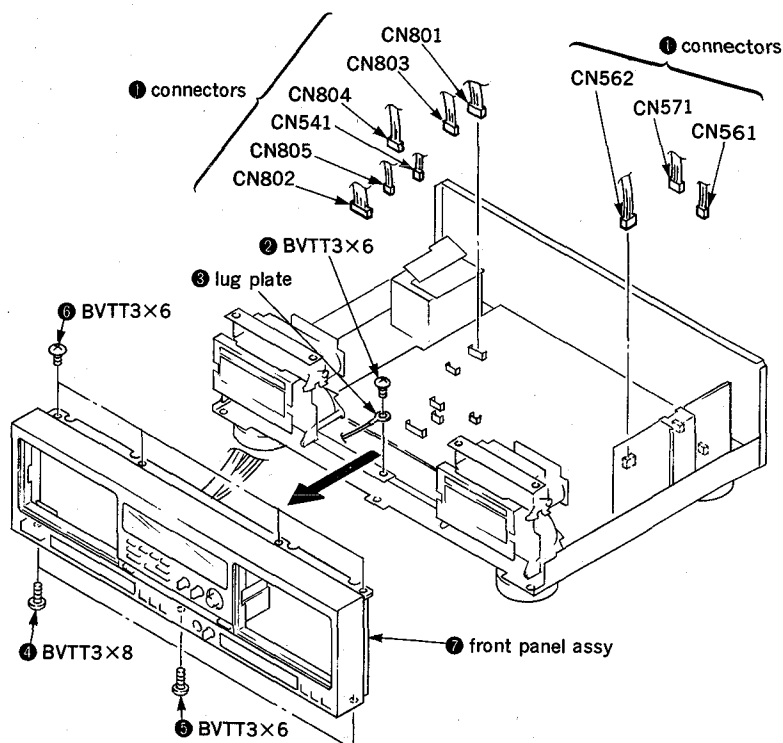
SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

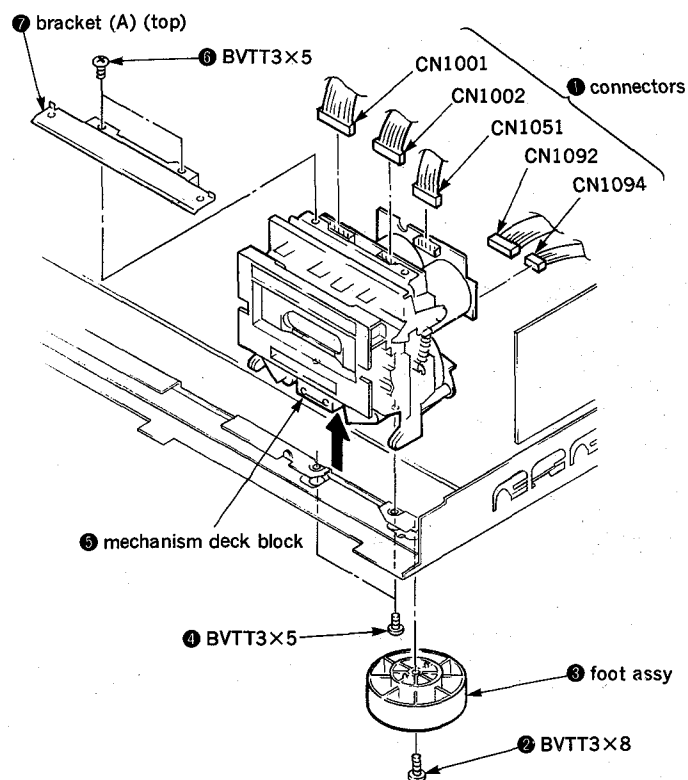
2-1. CASSETTE LID ASSY



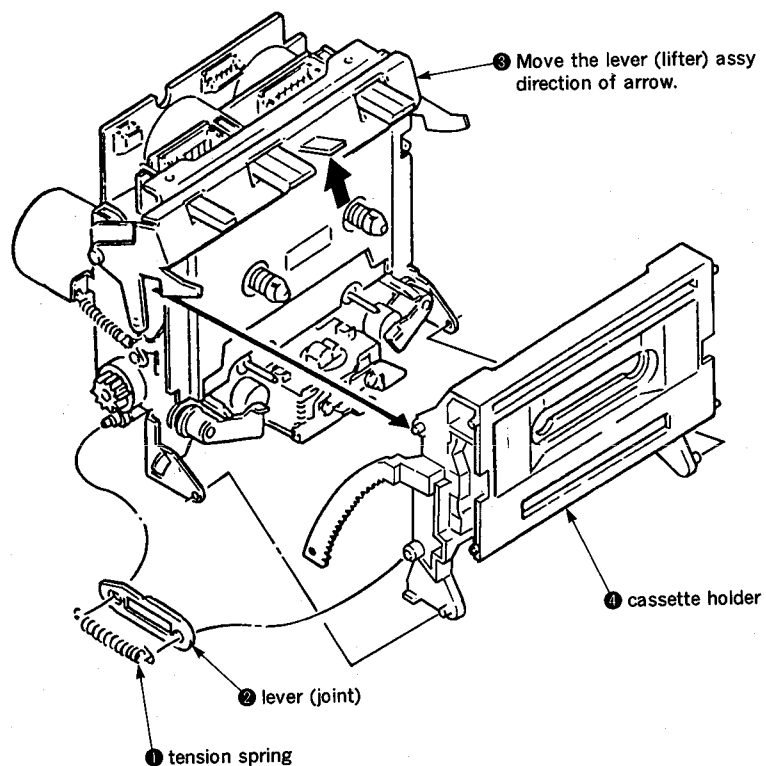
2-2. FRONT PANEL ASSY



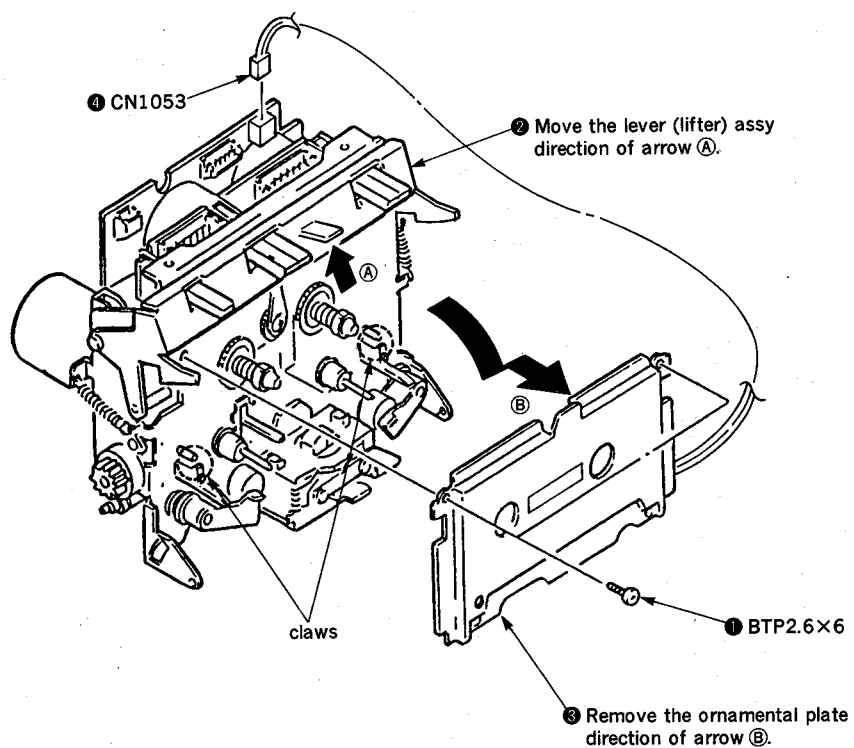
2-3. MECHANISM DECK BLOCK



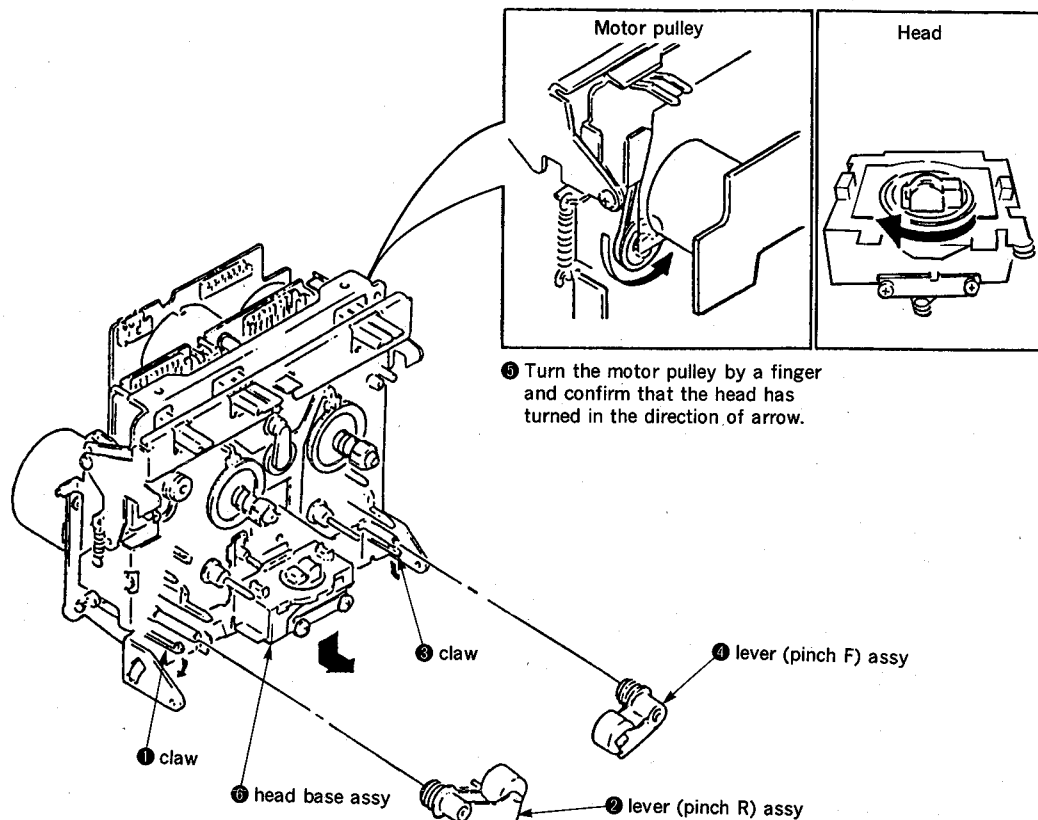
2-4. CASSETTE HOLDER



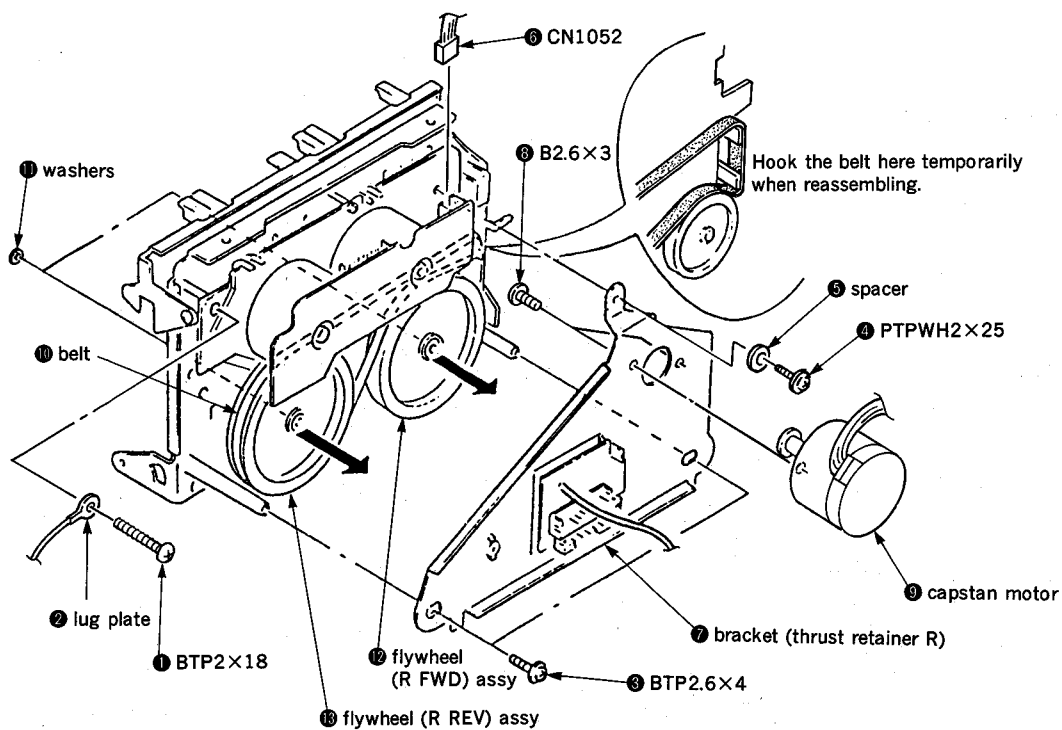
2-5. ORNAMENTAL PLATE



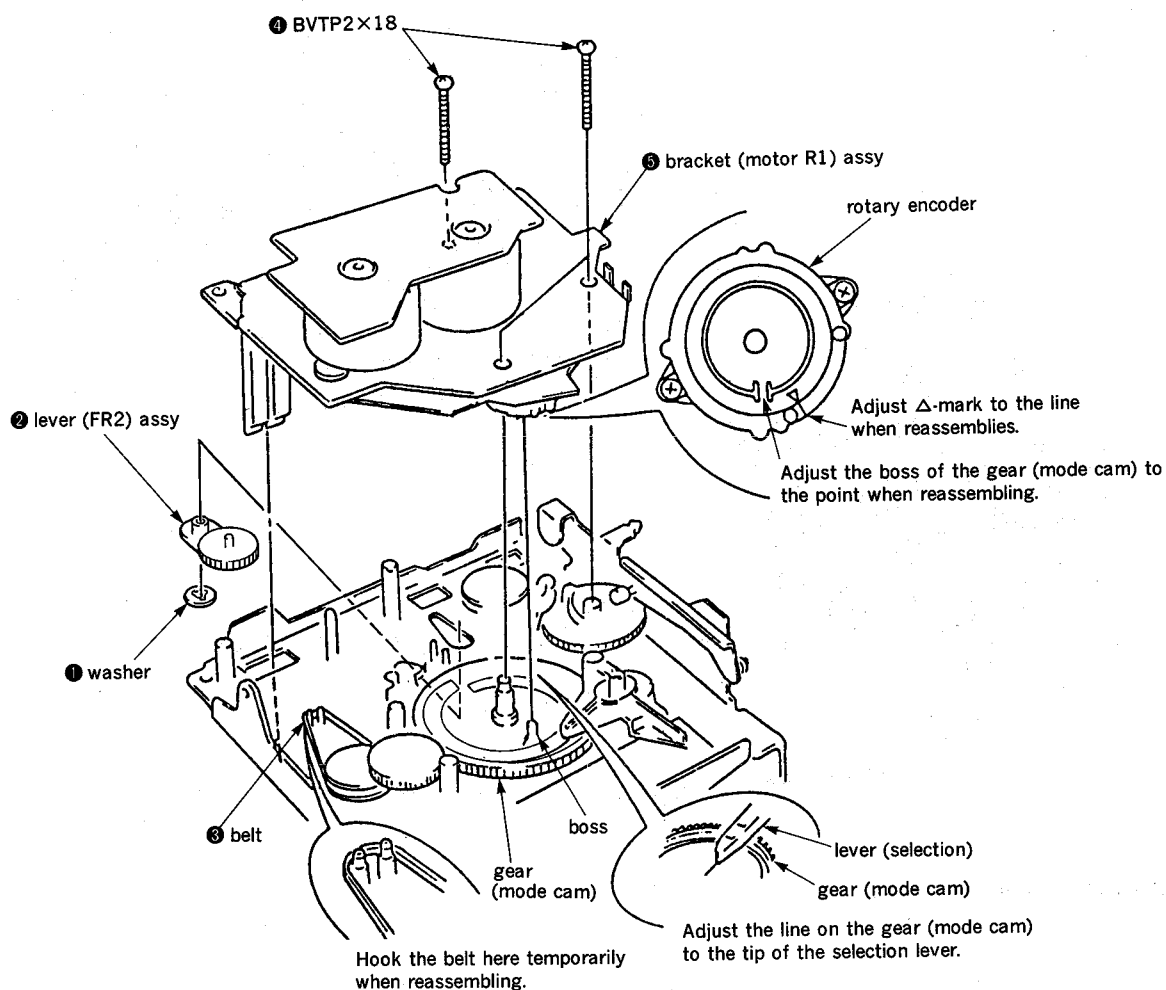
2-6. PINCH LEVER, HEAD



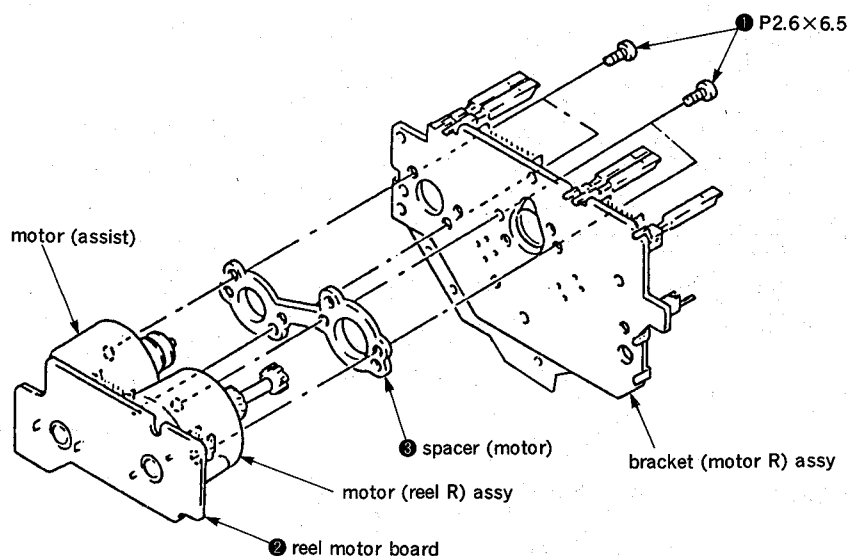
2-7. CAPSTAN MOTOR, FLYWHEEL



2-8. BRACKET (MOTOR R1) ASSY



2-9. REEL MOTOR BOARD



SECTION 3 MECHANICAL ADJUSTMENTS

PRECAUTION

- Clean the following parts with a denatured-alcohol-moistened swab :

record/playback/erase head	pinch roller
capstan	rubber belts
idler	
- Demagnetize the record/playback head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed in the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	30—60g·cm (0.42—0.83 oz·inch)
FWD back tension	CQ-102C	1—5g·cm (0.014—0.063 oz·inch)
REV	CQ-102RC	30—60g·cm (0.42—0.83 oz·inch)
REV back tension	CQ-102RC	1—5g·cm (0.014—0.063 oz·inch)
FF, REW	CQ-201B	65—90g·cm (0.90—1.25 oz·inch)

SECTION 4 ELECTRICAL ADJUSTMENTS

Note : The adjustment should be performed in the order given in the service manual. As a rule, adjustments about playback should be performed before those about recording. The adjustments should be performed for both L-CH and R-CH.

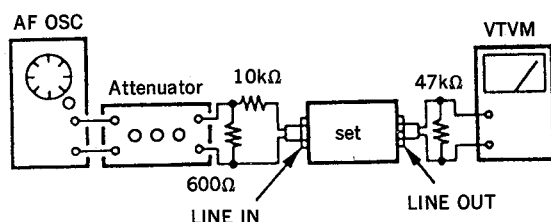
Switches and controls should be set as follows unless otherwise specified.

□□ (dolby) switch : OFF
 DIR MODE switch : ⇌
 TIMER switch : OFF

Standard Record :

Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

—Record Mode—



0 dB = 775mV

Standard Input Level

Input terminal	LINE IN
source impedance	10kΩ
input level	0.25V (−10dB)

Standard Output Level

Output terminal	LINE OUT
load impedance	47kΩ
output level	0.32V (−7.7dB)

Test tape

Type	Signal	Used for
P-4-A100	10kHz, −10dB	Azimuth Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment
P-4-L300	315Hz, 0dB	PB Level Adjustment

The set will get into TEST MODE by shorting the pins of TP801 (TEST) on main board before turning the power on, and TEST MODE functions as follows :

- High speed playback
Pushing HIGH SPEED DUBBING button while playback changes to high speed playback and another push of the button returns the set to normal speed playback.
- Record memory stop
When starting recording, tape counter is reset to zero and counter memory turned on.

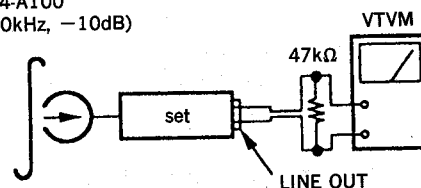
Record/Playback Head Azimuth Adjustment

DECK A DECK B

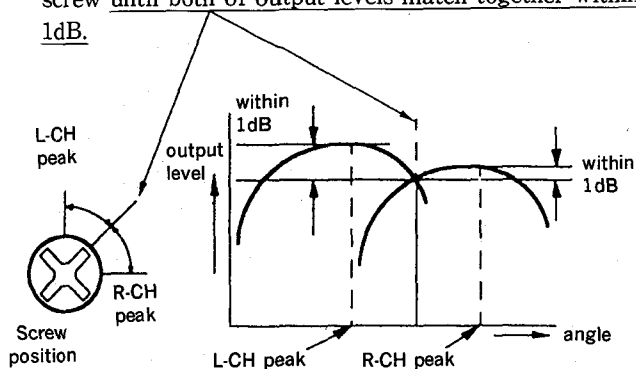
Procedure :

- Mode : FWD playback

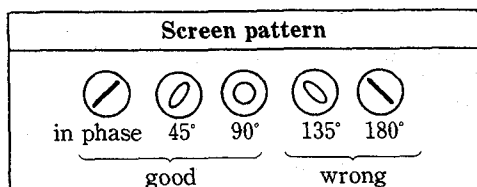
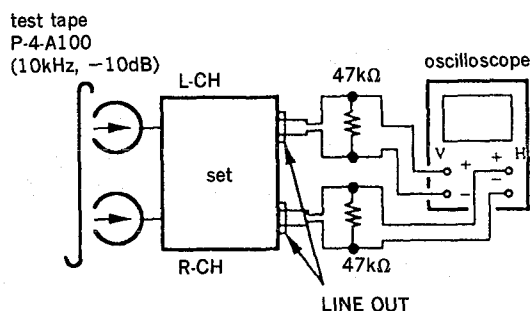
Test tape
 P-4-A100
 (10kHz, −10dB)



- Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.

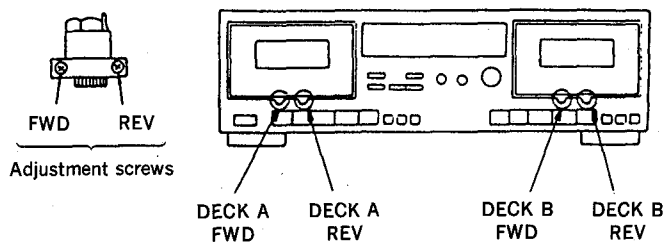


- Phase Check
Mode: playback



- Set in the REV mode and repeat the steps 1-3.
- After the adjustment, lock the screws with locking compound.

Adjustment Location: record/playback head

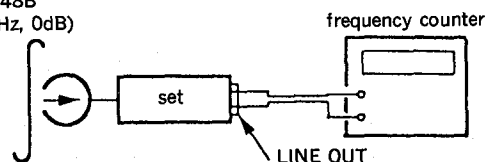


Tape Speed Adjustment DECK A DECK B

Procedure:

Mode: playback

test tape
WS-48B
(3kHz, 0dB)



(high speed adjustment)

- Short test pin TP801 (TEST) on main board.
- Set to FWD playback mode.
- Push the HIGH SPEED DUBBING button.
- Adjust RV871 (DECK A) and RV881 (DECK B) on main board so that the frequency counter reading becomes $6,000 \pm 30\text{Hz}$.
- After adjustment, disconnect TP801 shorted in step 1.

(normal speed adjustment)

- Set to FWD playback mode.
- Adjust RV872 (DECK A) and RV882 (DECK B) on main board so that the frequency counter reading becomes $3,000 \pm 15\text{Hz}$.

Frequency difference between the beginning and the end of the tape should be within 5%.

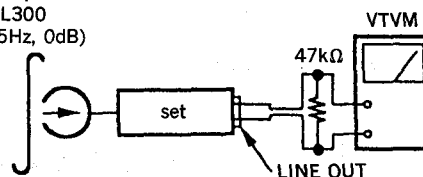
Frequency difference between deck A and deck B should be within 60Hz (high speed) or 30Hz (normal speed).

Adjustment Location: main board (See page 12.)

Playback Level Adjustment DECK A DECK B

Procedure:

test tape
P-4-L300
(315Hz, 0dB)



Adjust RV131 (L-CH) and RV231 (R-CH) for DECK A and RV151 (L-CH) and RV251 (R-CH) for DECK B so that the reading on VTVM meets the adjustment limits next page.

Adjustment Limits :

LINE OUT level: $-20 \pm 0.5\text{dB}$ (73.2–83.0mV)

Level difference between channels: less than 0.5dB

Check that the LINE OUT level does not change even if playback and stop operation is repeated several times.

Adjustment Location : main board (See page.12.)

Bias Current Adjustment

Procedure :

1. Set the RV121 (L-CH) and RV221 (R-CH) for DECK A and RV141 (L-CH) and RV214 (R-CH) for DECK B to mechanical center and turn the set recording mode.
2. Connect digital voltmeter as shown by the following table.
3. Adjust the following transformers for the minimum readings on the digital voltmeter.

DECK	Mesurement point	Adjustment	Value
A	L ① and ②, TP521	T121	less than 140mV
	R ② and ③, TP521	T221	
B	L ① and ②, TP541	T141	
	R ② and ③, TP541	T241	

Adjustment Location : main board (See page 12.)

Record Bias Adjustment

DECK A

DECK B

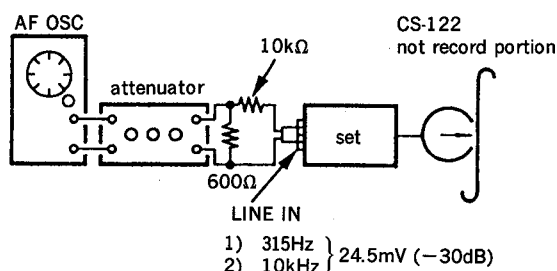
Setting :

REC LEVEL control: Standard Record (See page 9.)

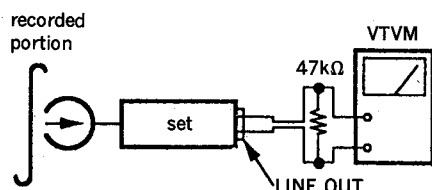
Test pin TP801: short

Procedure :

1. Mode: record



2. Mode: playback



3. Playbck the signal recorded in step 1.
4. Confirm that the 10kHz playback output is $0 \pm 0.5\text{dB}$ relative to the 315Hz output. If necessary, adjust the RV121 (L-CH) and RV221 (R-CH) for DECK A and RV141 (L-CH) and RV241 (R-CH) for DECK B, and repeat the steps 1-2.

Adjustment Location : main board (See page 12.)

Record Level Adjustment

DECK A

DECK B

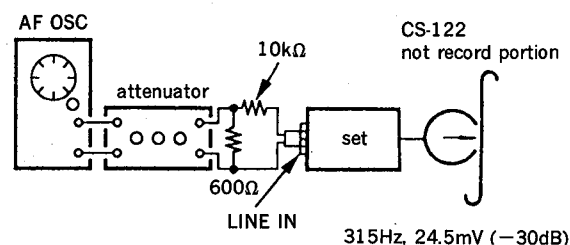
Setting :

REC LEVEL control: Standard Record (See page 9.)

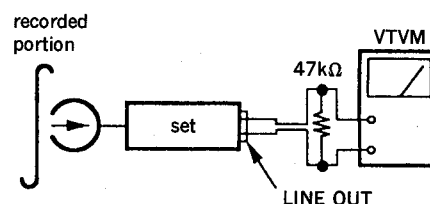
Test pin TP801: short

Procedure :

1. Mode: record



2. Mode: playback



3. Playback the signal recorded in step 1.
4. Confirm that the signal level is within the adjustment limits below. If necessary, adjust the RV301 (L-CH) and RV401 (R-CH) for DECK A and RV351 (L-CH) and RV451 (R-CH) for DECK B, and repeat the steps 1-2.

Adjustment Limits : $-30 \text{ dB} \pm 0.5\text{dB}$ (23.1–26.0mV)

Adjustment Location : REC EQ board (See page 12.)

Quick Reverse Sensitivity Adjustment

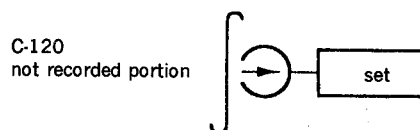
DECK A

DECK B

Setting :

DIR MODE switch: $\rightleftarrows$

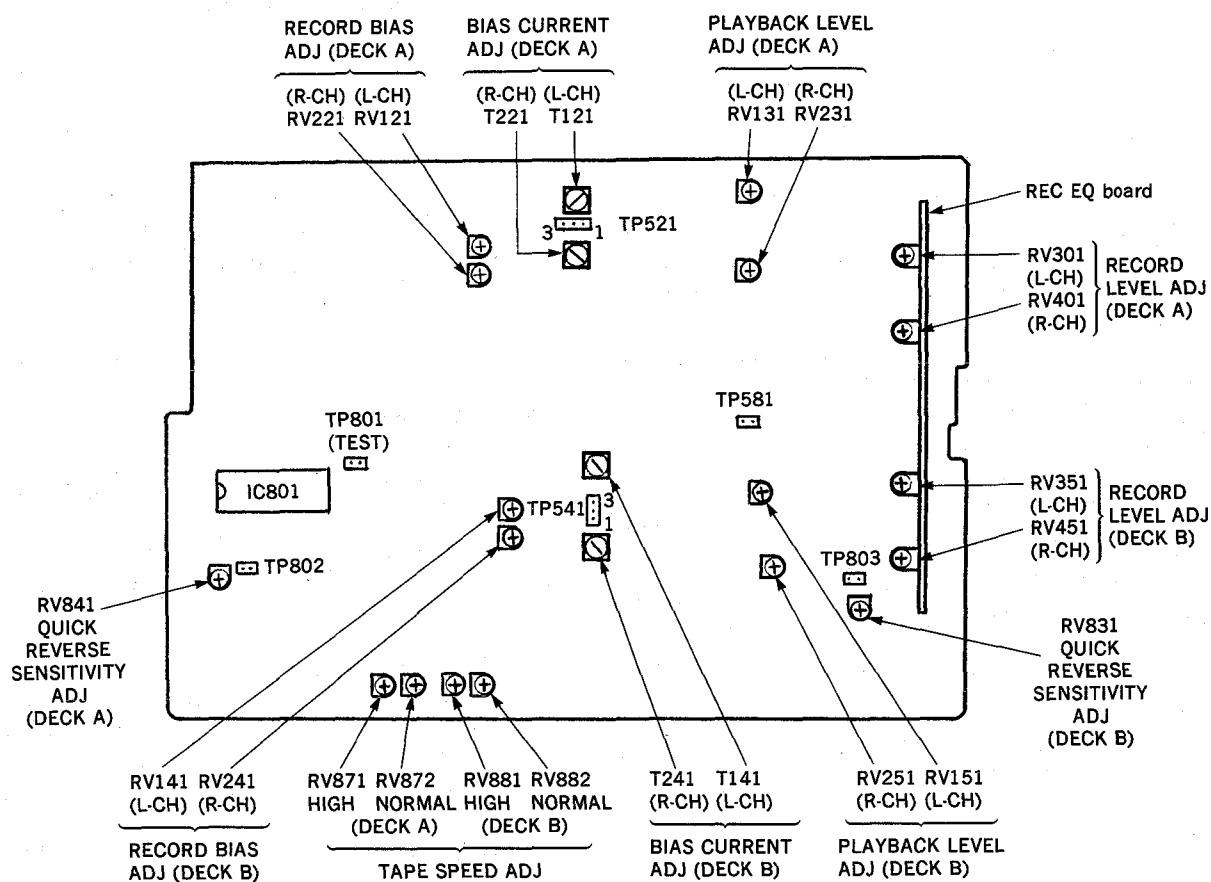
Adjustment procedure :



1. Connect the digital voltmeter to test point TP802 (DECK A) / TP803 (DECK B).
2. Load C-120 cassette tape and playback the leading portion in FWD mode.
3. Adjust the RV841 (DECK A) and RV831 (DECK B) for $4.5 \pm 0.5\text{V}$ reading on the digital voltmeter.
4. Playback C-120 cassette tape in FWD mode again.
5. Confirm that the reading on the digital voltmeter is "L" level at the magnetic portion of the tape.
6. Confirm that the tape stop around the tape end (boder of the leading and the magnetic portions).

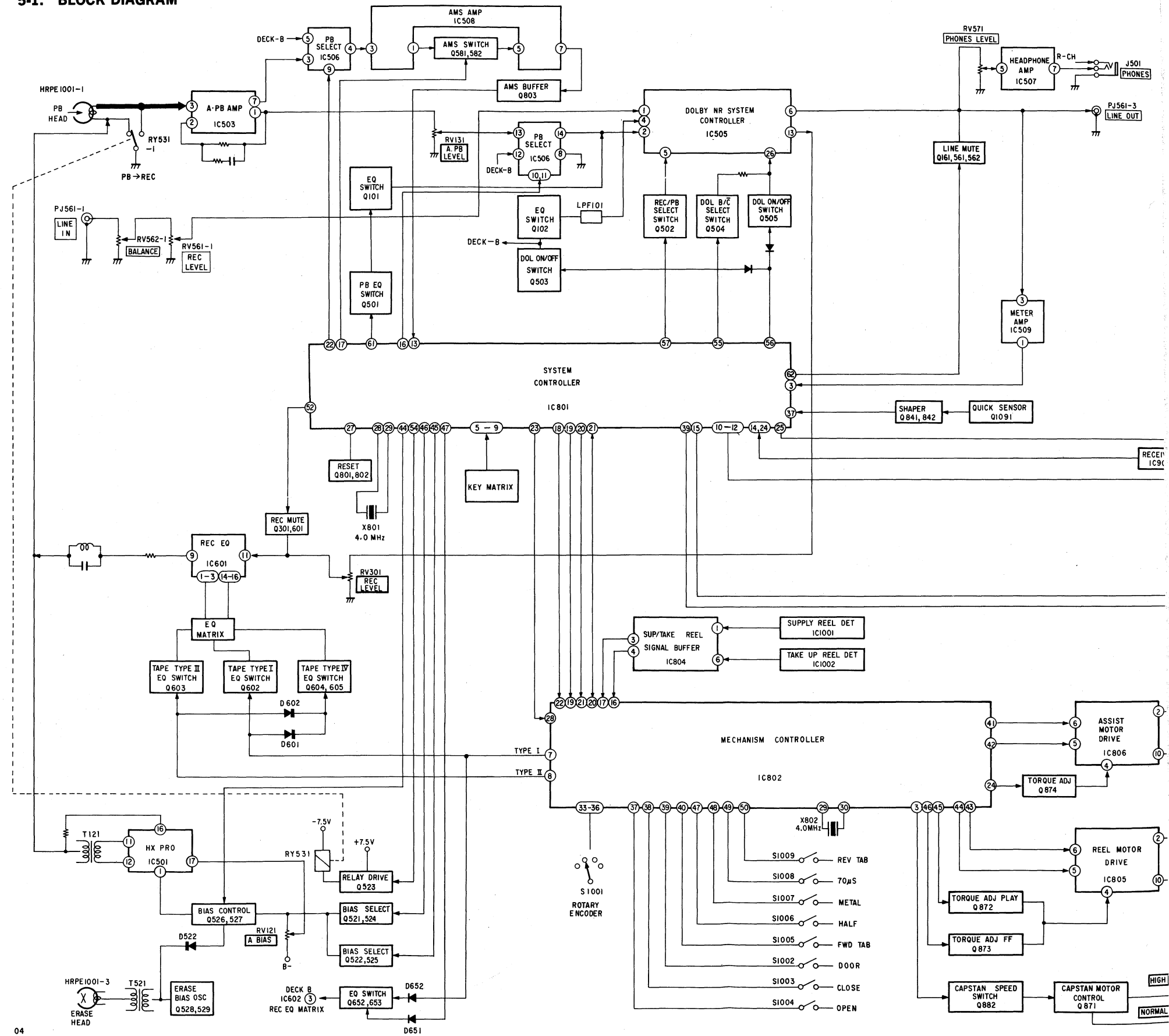
Adjustment Location : main board (See page 12.)

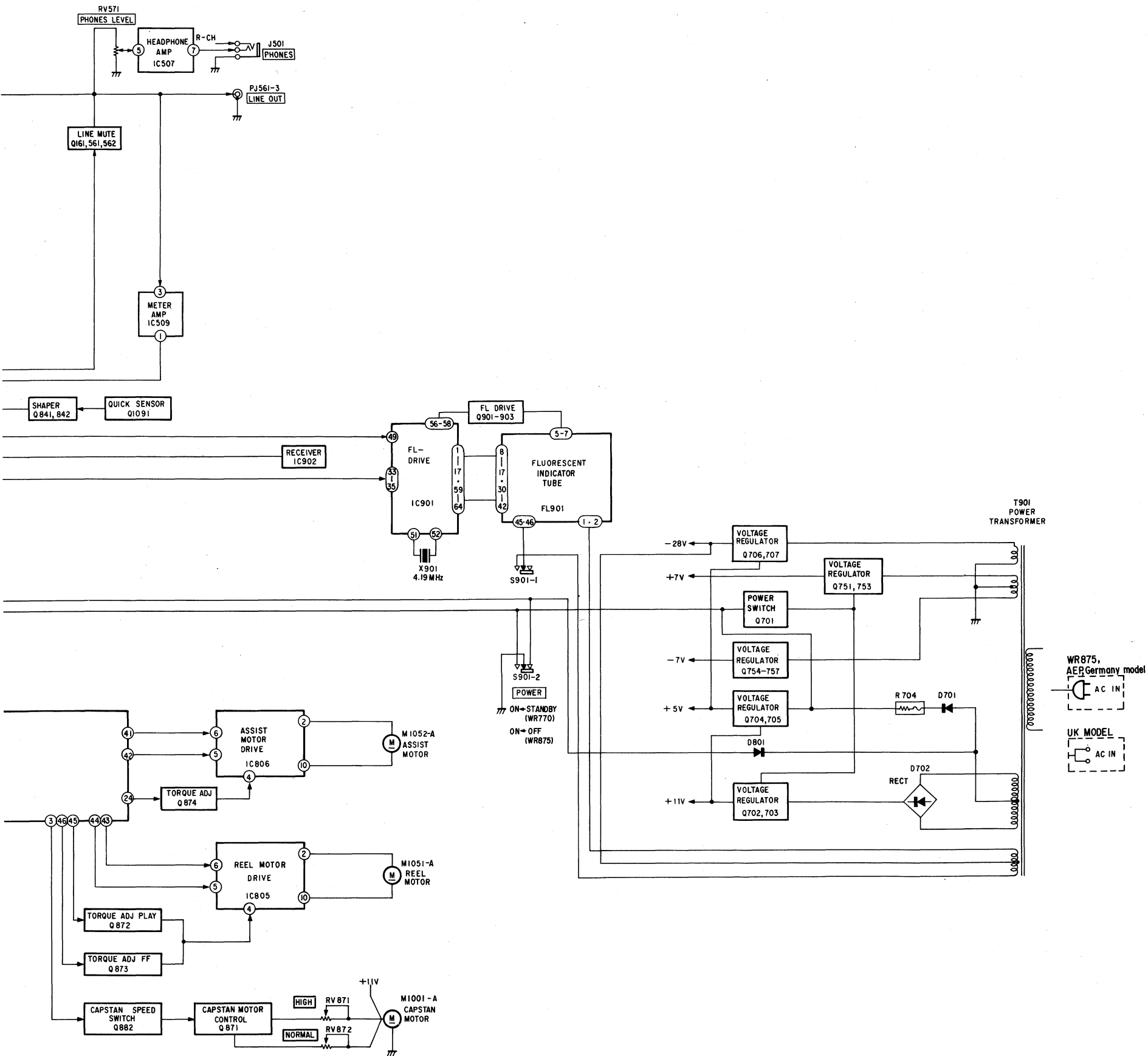
Adjustment Location : main board and REC EQ board
 — main board (component side) —



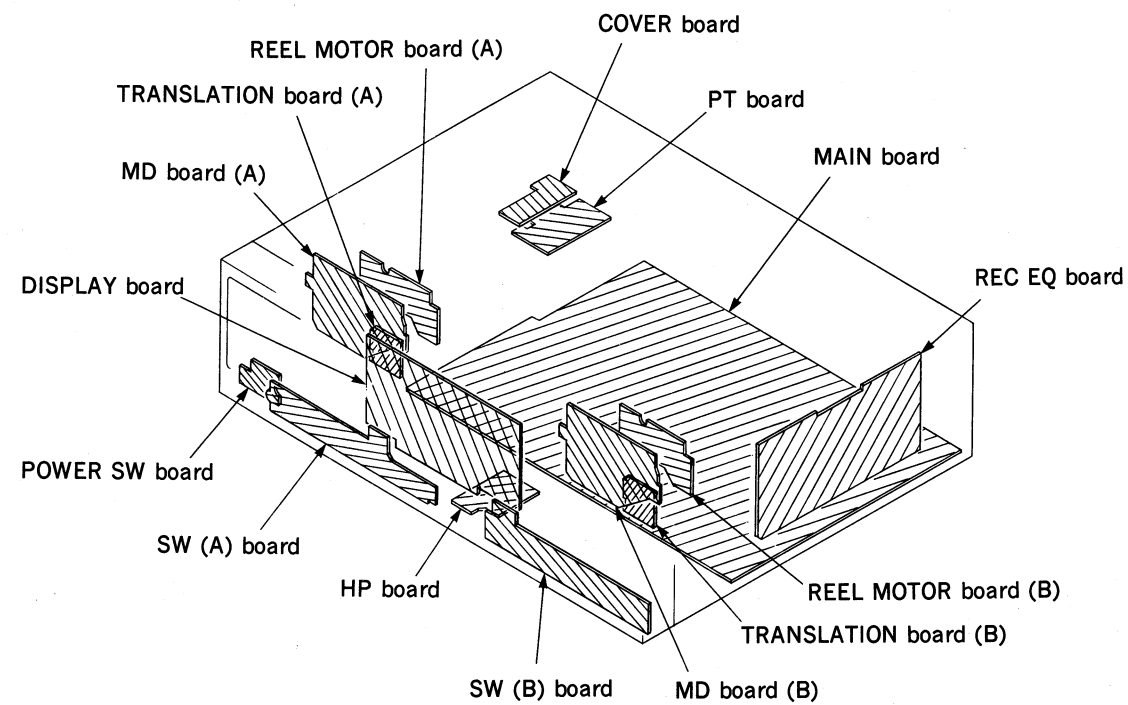
SECTION 5 DIAGRAMS

5-1. BLOCK DIAGRAM

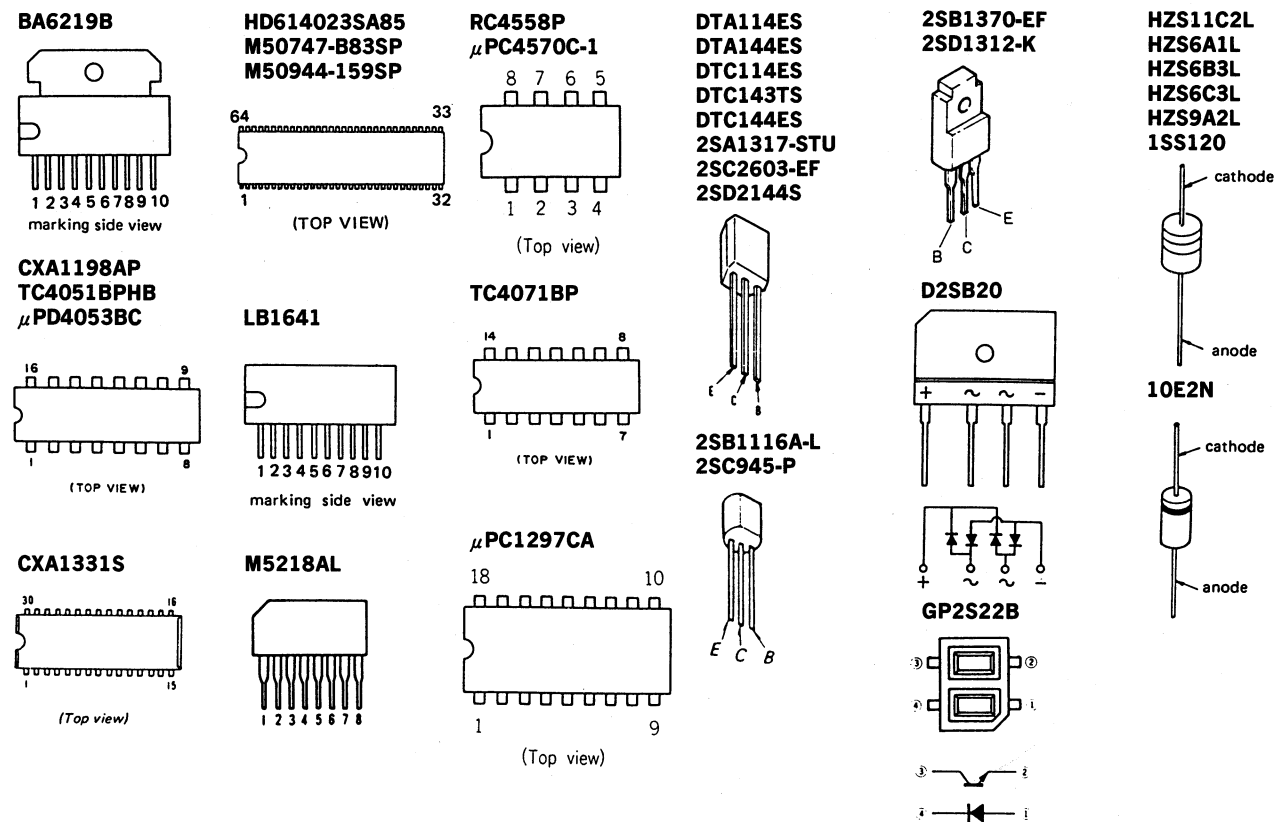




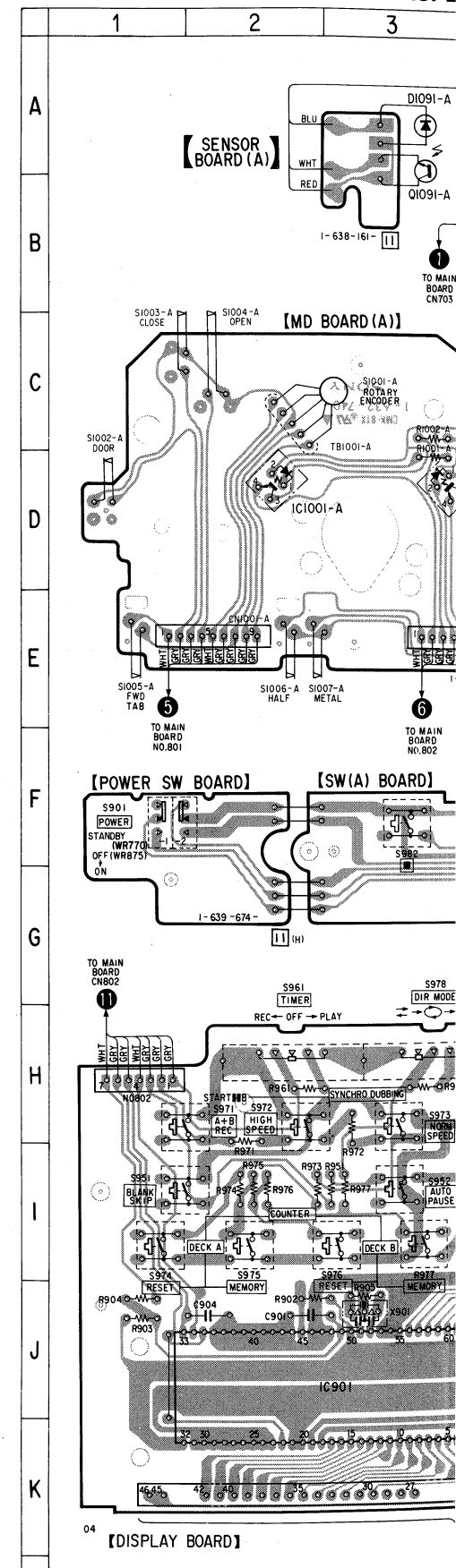
5-2. CIRCUIT BOARDS LOCATION



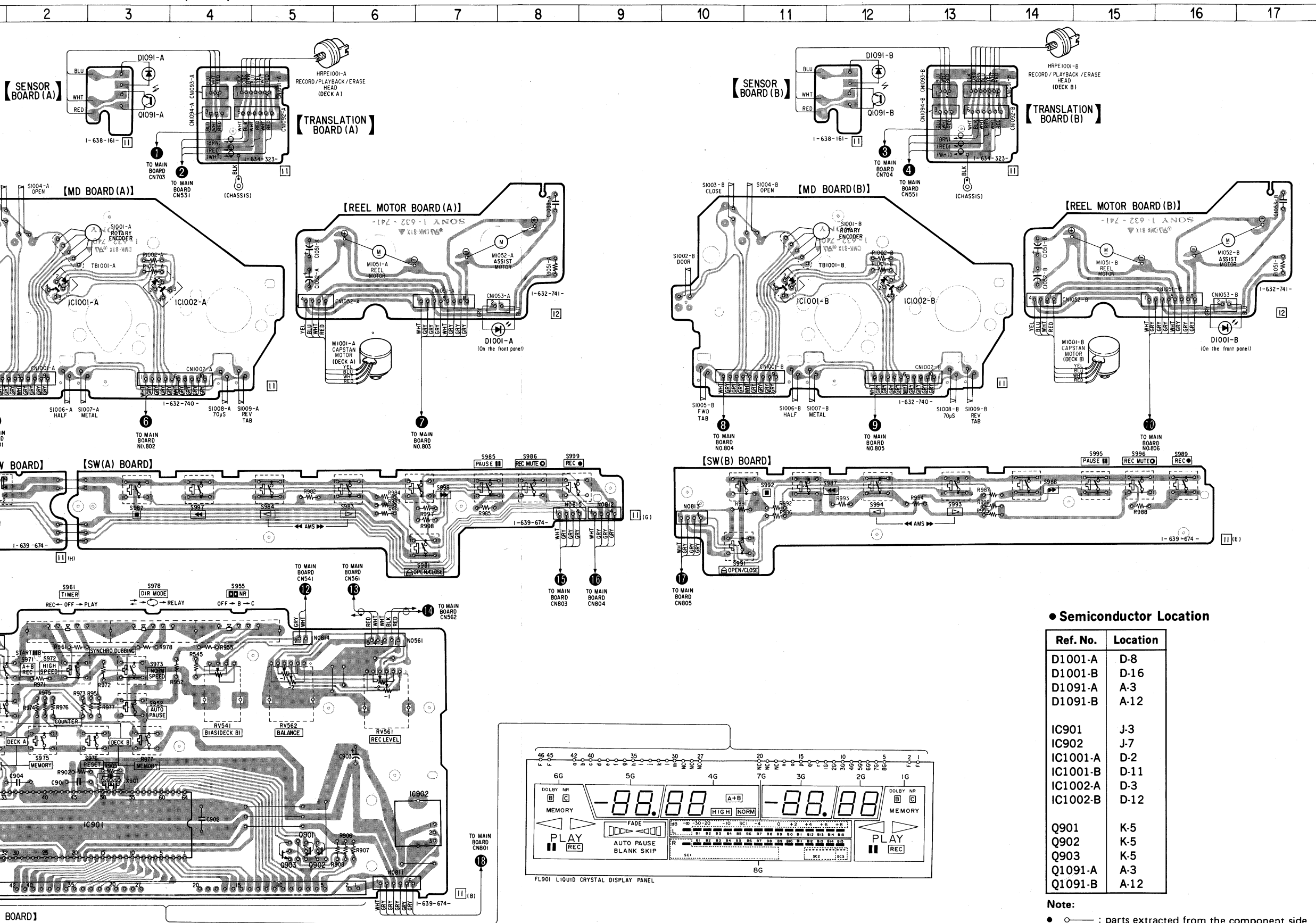
5-3. SEMICONDUCTOR LEAD LAYOUTS



5-4. PRINTED WIRING BOARDS —DISPL



WIRING BOARDS —DISPLAY/DECK/SW SECTION—



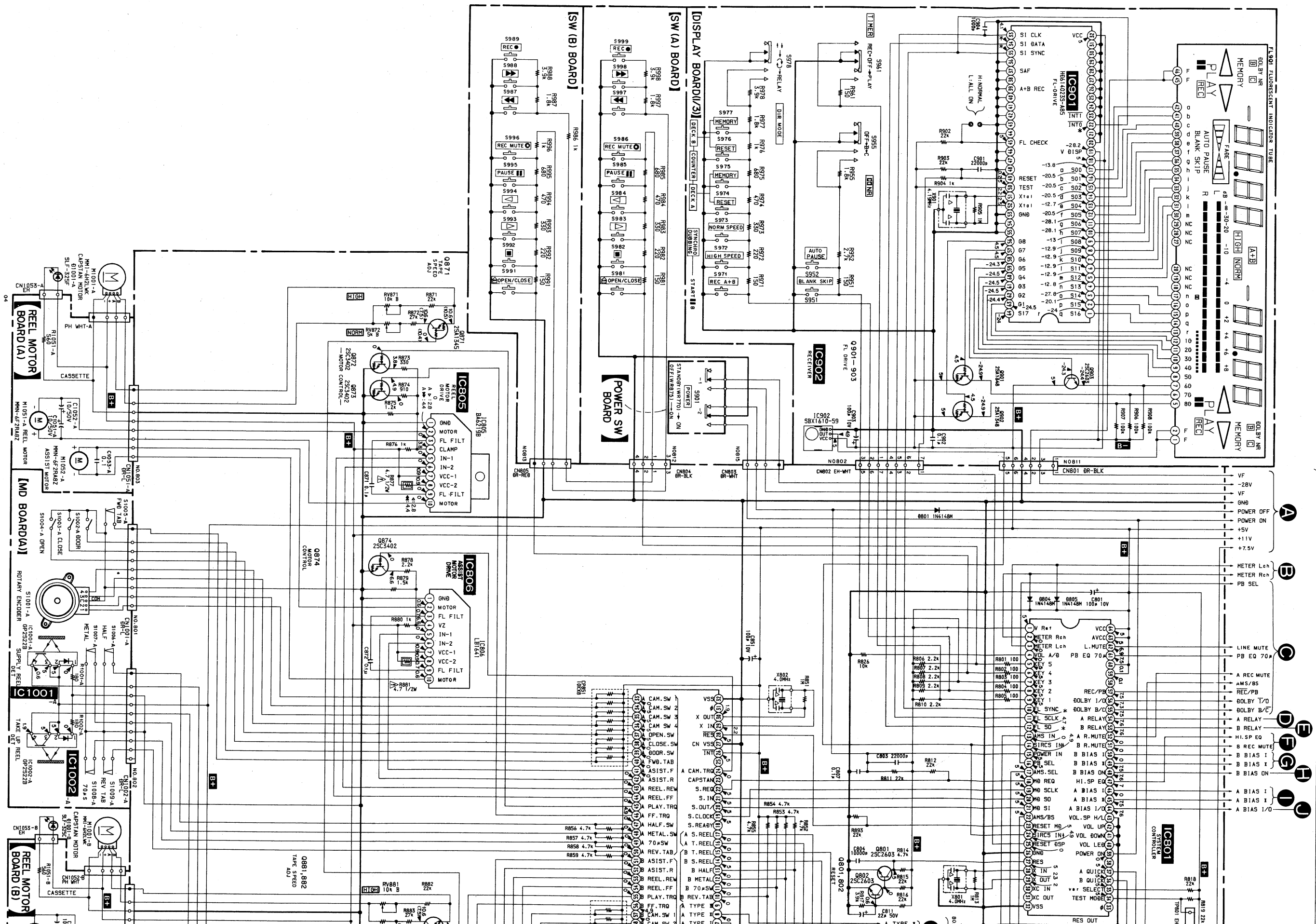
- **Semiconductor Location**

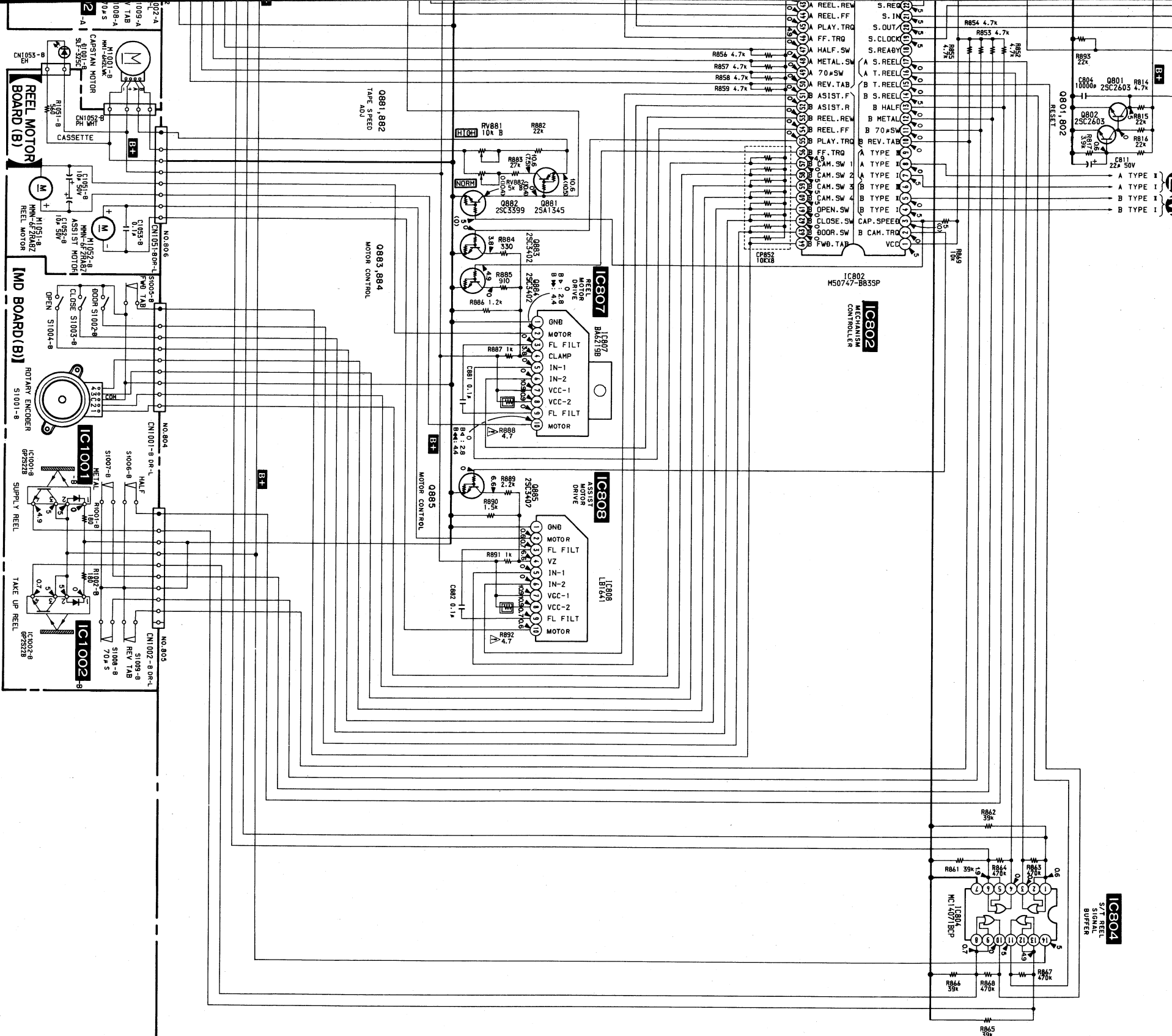
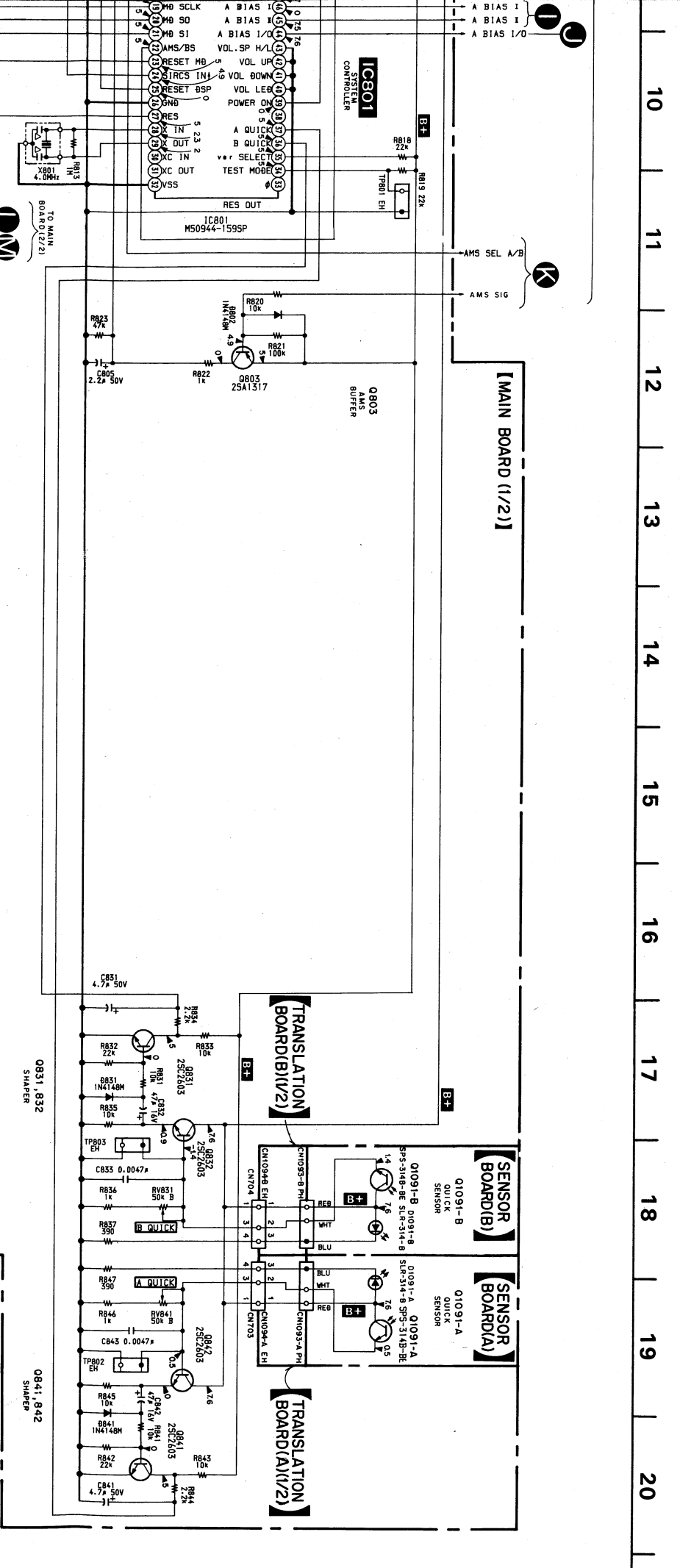
Ref. No.	Location
D1001-A	D-8
D1001-B	D-16
D1091-A	A-3
D1091-B	A-12
IC901	J-3
IC902	J-7
IC1001-A	D-2
IC1001-B	D-11
IC1002-A	D-3
IC1002-B	D-12
Q901	K-5
Q902	K-5
Q903	K-5
Q1091-A	A-3
Q1091-B	A-12

Note:

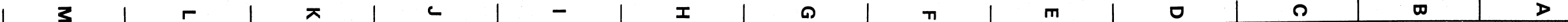
- ○ — : parts extracted from the component side.
- — : parts extracted from the conductor side.

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	





A vertical scale with tick marks and numbers 1 through 6, increasing from top to bottom.



- All capacitors are in μF unless otherwise noted. pF: μM 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.

Note: The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

- Voltage is dc with respect to ground under no-signal conditions.
no mark: **POWER ON**

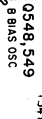
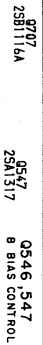
- * : Impossible to measure the voltage at the marked points.

- **Signal path.**

Σ : PB (DECK A)

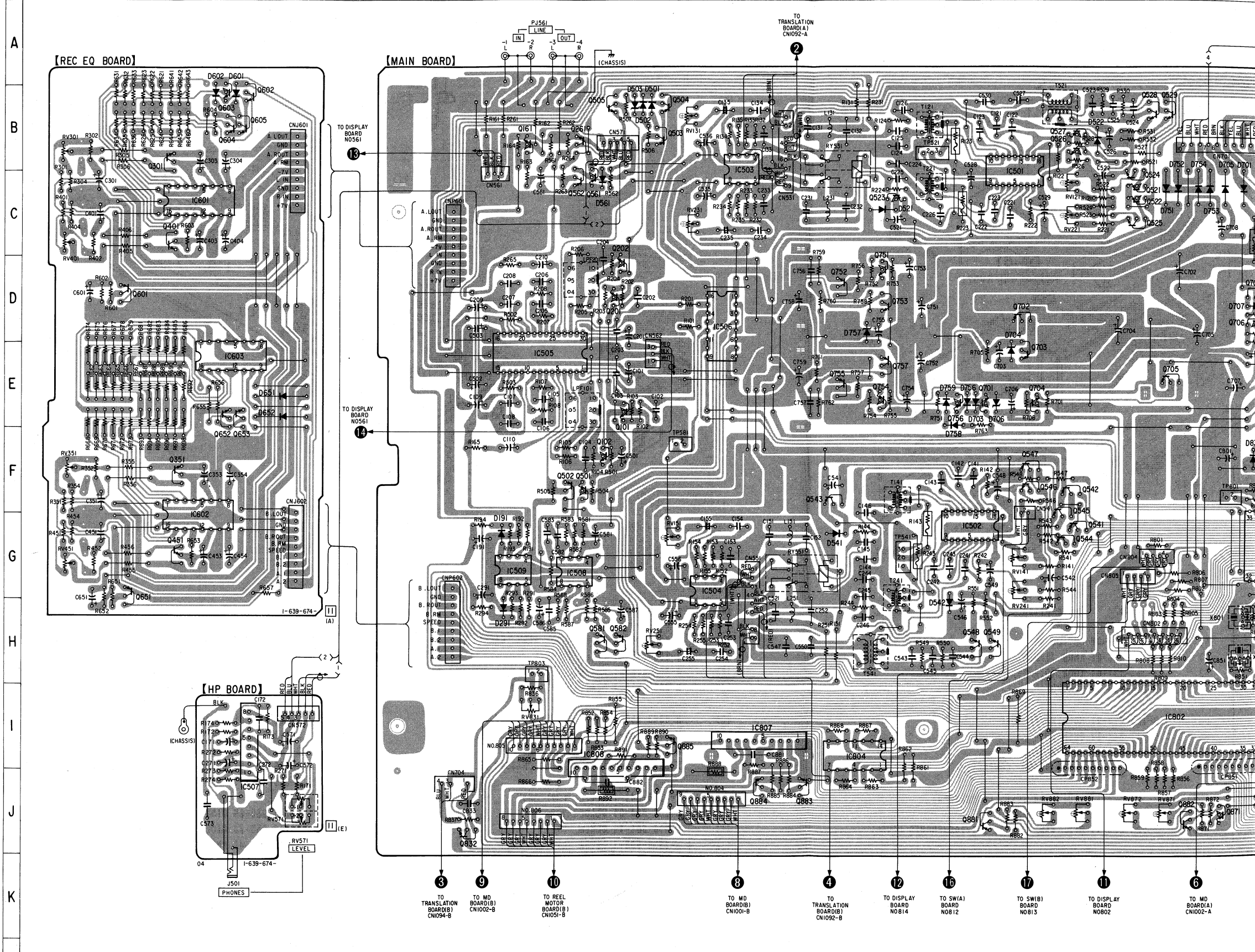
ΣΣ : REC (DECK A)

REC (DECK B)

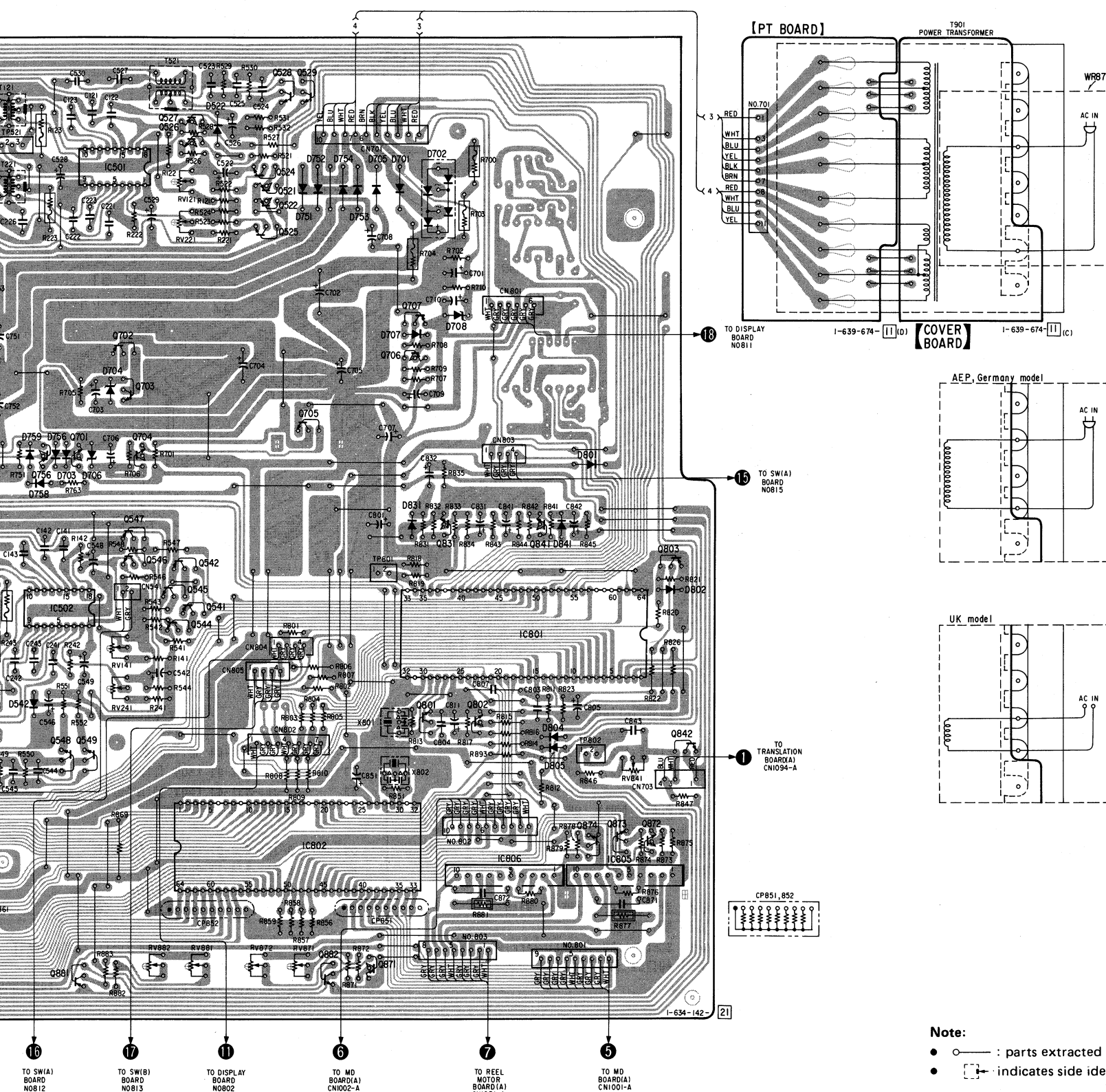




	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
--	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----



12 13 14 15 16 17 18 19 20 21 22



• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D191	G-6	Q451	G-2
D291	H-6	Q501	F-7
D501	B-8	Q502	F-7
D502	B-8	Q503	B-8
D503	B-8	Q504	B-8
D521	C-11	Q505	B-7
D522	B-13	Q521	C-14
D541	G-10	Q522	C-14
D542	H-11	Q523	C-11
D561	C-7	Q524	C-14
D601	B-3	Q525	C-14
D602	B-3	Q526	B-13
D651	E-3	Q527	B-13
D652	E-3	Q528	B-14
D701	C-15	Q529	B-14
D702	C-15	Q541	G-13
D703	E-12	Q542	F-13
D704	E-12	Q543	F-10
D705	C-15	Q544	G-13
D706	E-12	Q545	G-13
D707	D-15	Q546	F-12
D708	D-15	Q547	F-12
D751	C-14	Q548	H-12
D752	C-14	Q549	H-12
D753	C-14	Q561	C-7
D754	C-14	Q562	C-7
D756	E-12	Q581	H-7
D757	D-10	Q582	H-7
D758	E-11	Q601	D-2
D759	E-11	Q602	B-3
D801	E-17	Q603	B-3
D802	F-17	Q604	B-3
D804	H-16	Q605	B-3
D805	H-16	Q651	G-2
D831	F-15	Q652	E-3
D841	F-16	Q653	E-3
IC501	B-12	Q701	E-12
IC502	G-12	Q702	D-12
IC503	C-9	Q703	E-12
IC504	G-9	Q704	E-12
IC505	E-7	Q705	E-14
IC506	D-9	Q706	D-15
IC507	I-3	Q707	D-15
IC508	G-7	Q751	D-11
IC509	G-6	Q752	D-10
IC601	C-3	Q753	D-11
IC602	G-3	Q754	E-11
IC603	E-3	Q755	E-10
IC801	G-16	Q756	E-11
IC802	I-14	Q757	E-11
IC804	I-10	Q801	H-15
IC805	I-17	Q802	H-16
IC806	I-16	Q803	F-17
IC807	I-9	Q831	F-15
IC808	I-7	Q832	J-6
Q101	E-8	Q841	F-16
Q102	F-7	Q842	H-18
Q161	B-6	Q871	J-15
Q201	D-7	Q872	I-17
Q202	D-8	Q873	I-17
Q261	B-7	Q874	I-17
Q301	B-2	Q881	J-12
Q351	F-2	Q882	J-14
Q401	C-2	Q883	J-10
		Q884	J-9
		Q885	I-8

SECTION 6 EXPLODED VIEWS

NOTE:

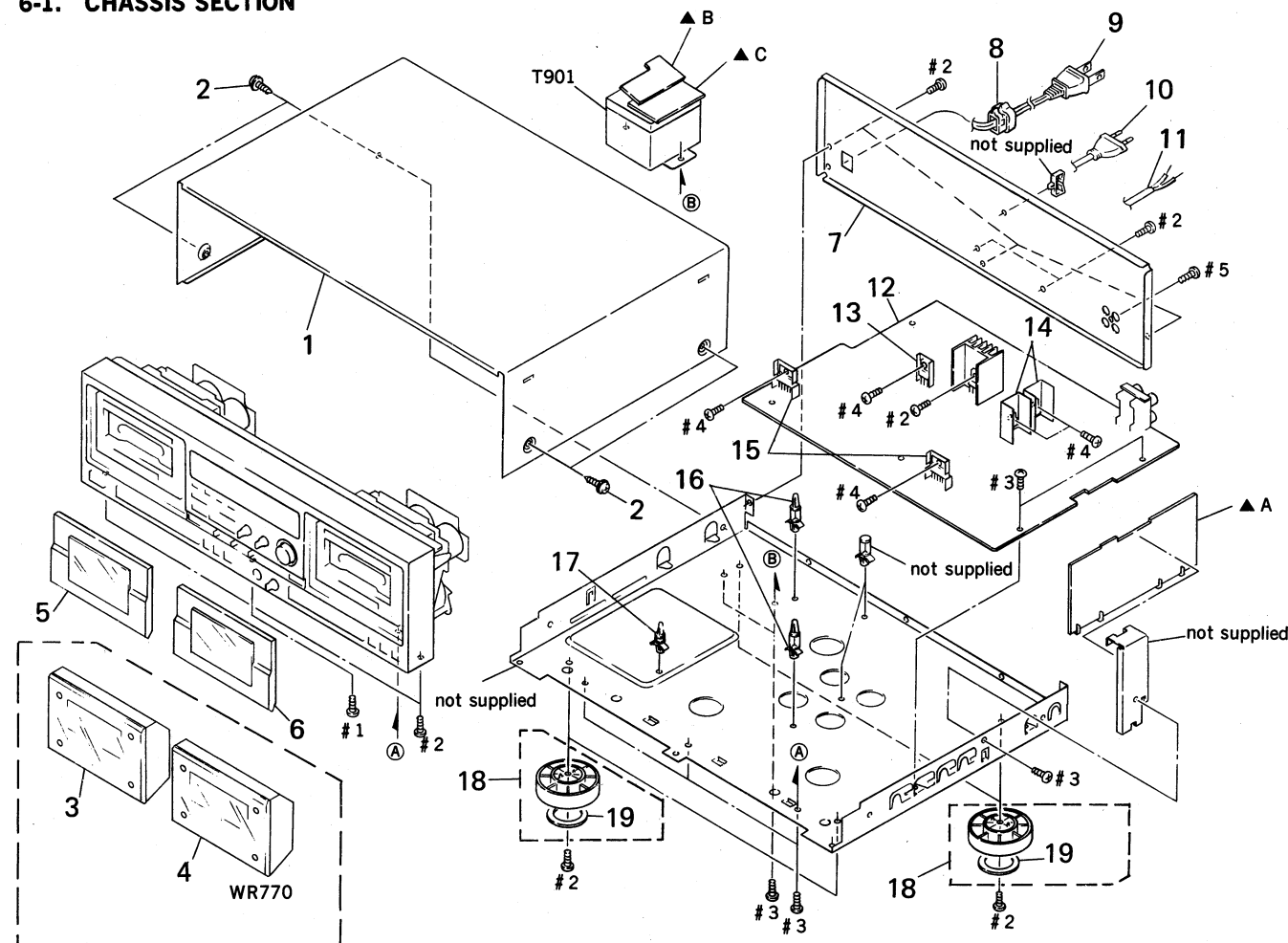
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
Example:
KNOB, BALANCE (WHITE)...(RED)
Parts Color Cabinet's Color

- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

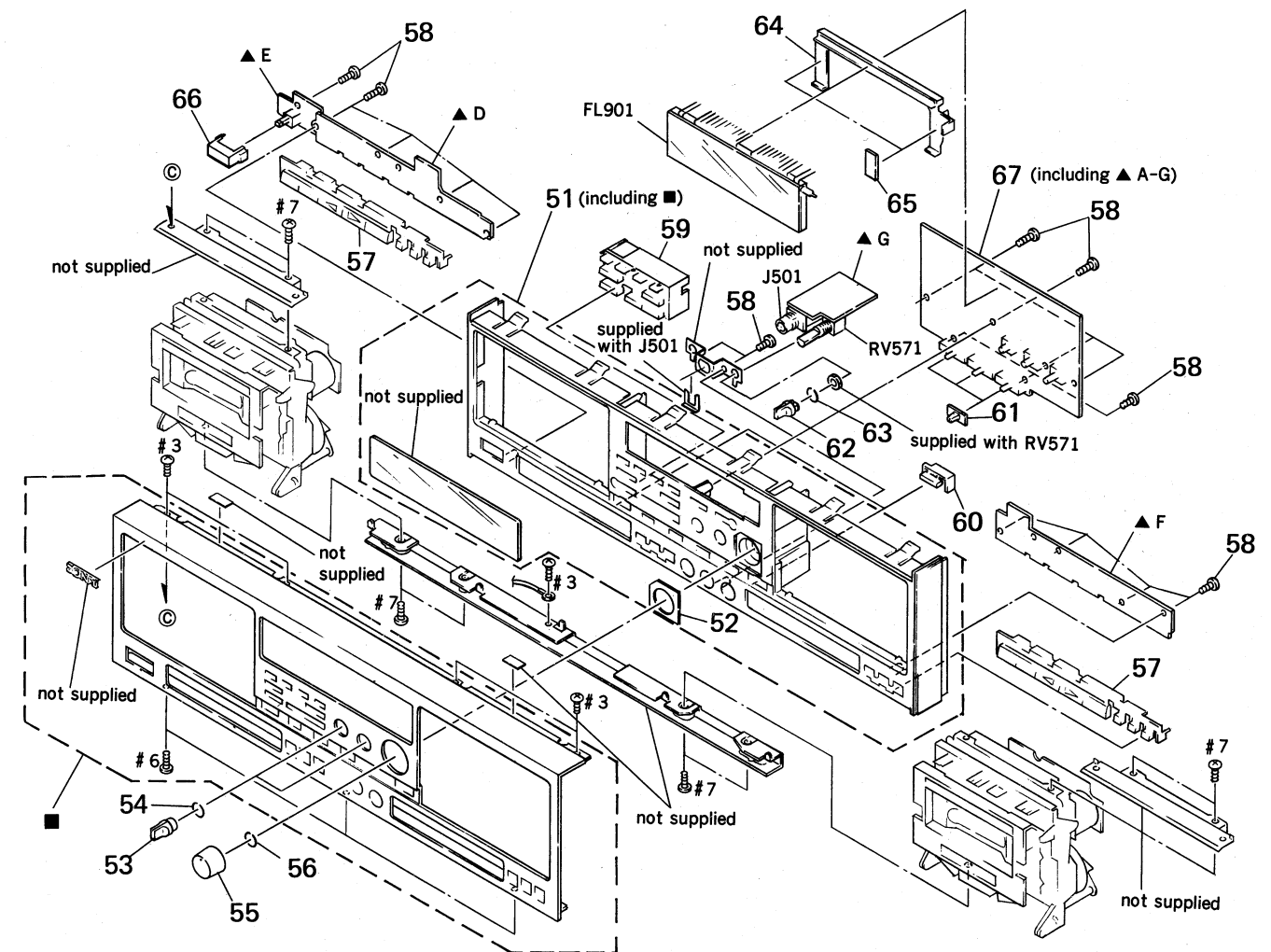
6-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
1	4-925-039-61	CASE	
2	3-704-366-01	SCREW (CASE) (M3X8)	
3	X-3363-200-1	LID (A) ASSY, CASSETTE (WR770)	
4	X-3363-201-1	LID (B) ASSY, CASSETTE (WR770)	
5	X-3362-492-1	LID (A) ASSY, CASSETTE (WR875)	
6	X-3362-493-1	LID (B) ASSY, CASSETTE (WR875)	
7	* 3-365-369-01	PANEL, BACK (US)	
7	* 3-365-369-11	PANEL, BACK (AEP, Germany)	
7	* 3-365-369-21	PANEL, BACK (UK)	
8	* 3-703-244-00	BUSHING (2104), CORD	
9	▲ 1-555-465-00	CORD, POWER (US)	
10	▲ 1-555-795-00	CORD, POWER, EULO PLUG (AEP, Germany)	
11	▲ 1-556-035-00	CORD, POWER (UK)	

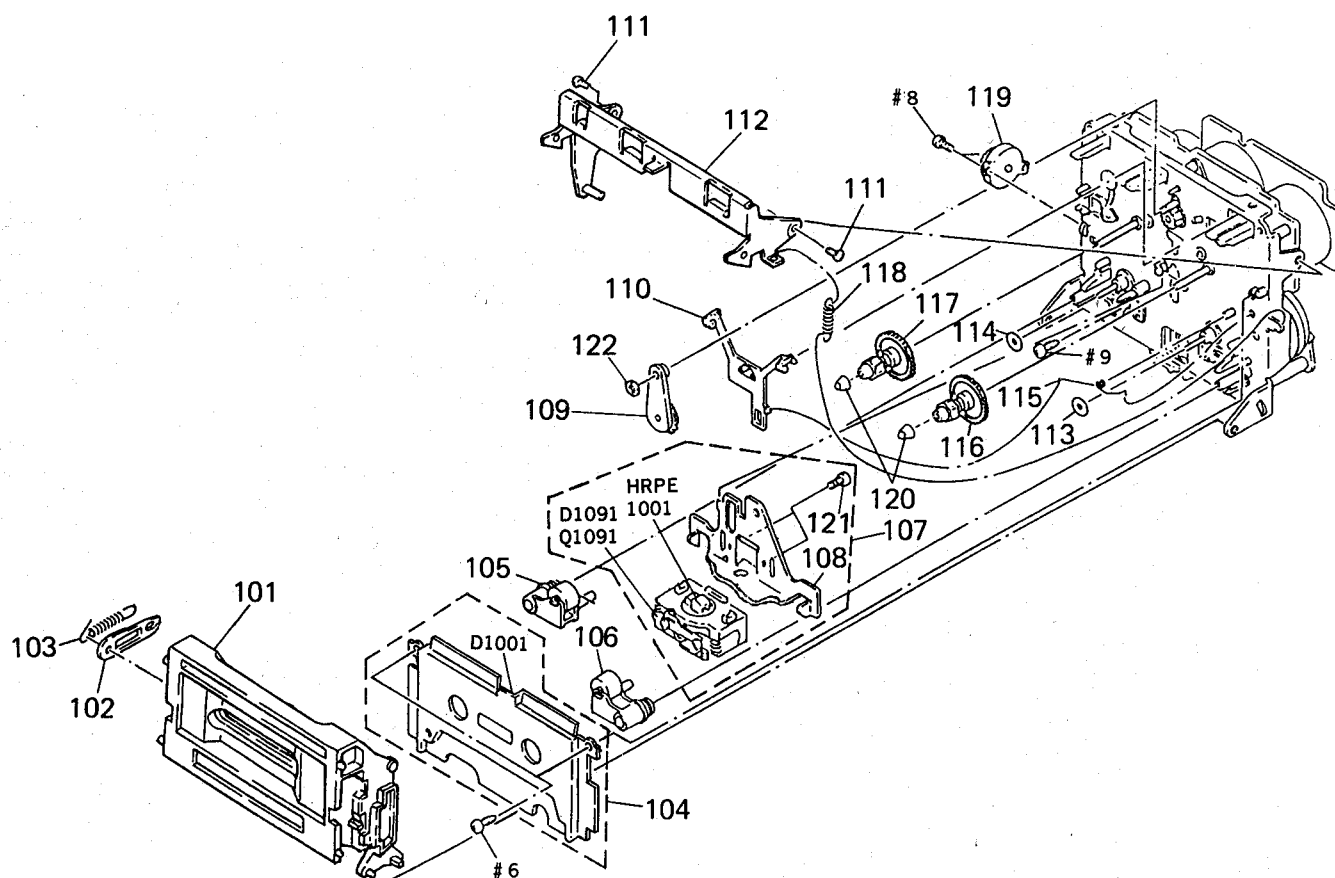
Ref. No.	Part No.	Description	Remark
12	* A-2006-392-A	MAIN BOARD, COMPLETE	
13	* 3-309-144-21	HEAT SINK	
14	* 4-880-403-11	HEAT SINK	
15	* 3-356-925-01	HEAT SINK	
16	* 3-346-265-11	HOLDER, PC BOARD	
17	* 4-924-098-11	HOLDER, PC BOARD	
18	X-3304-938-2	FOOT ASSY (WR770)	
18	X-4885-950-1	FOOT ASSY (WR875)	
19	4-923-836-11	CUSHION	
T901	▲ 1-450-444-11	TRANSFORMER, POWER (WR875)	
T901	▲ 1-450-446-11	TRANSFORMER, POWER (WR770)	

6-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	A-2003-720-A	PANEL ASSY, FRONT (WR875)	
51	A-2003-721-A	PANEL ASSY, FRONT (WR770)	
52	3-354-923-01	PLATE (VOL), ORNAMENTAL	
53	3-354-931-11	KNOB (DIA. 10)	
54	3-354-981-01	SPRING (SUS), RING	
55	3-359-932-01	KNOB (REC)	
56	3-362-235-01	SPRING (REC LEVEL), RING	
57	3-365-419-01	BUTTON (A)	
58	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
59	3-354-938-21	BUTTON (B)	

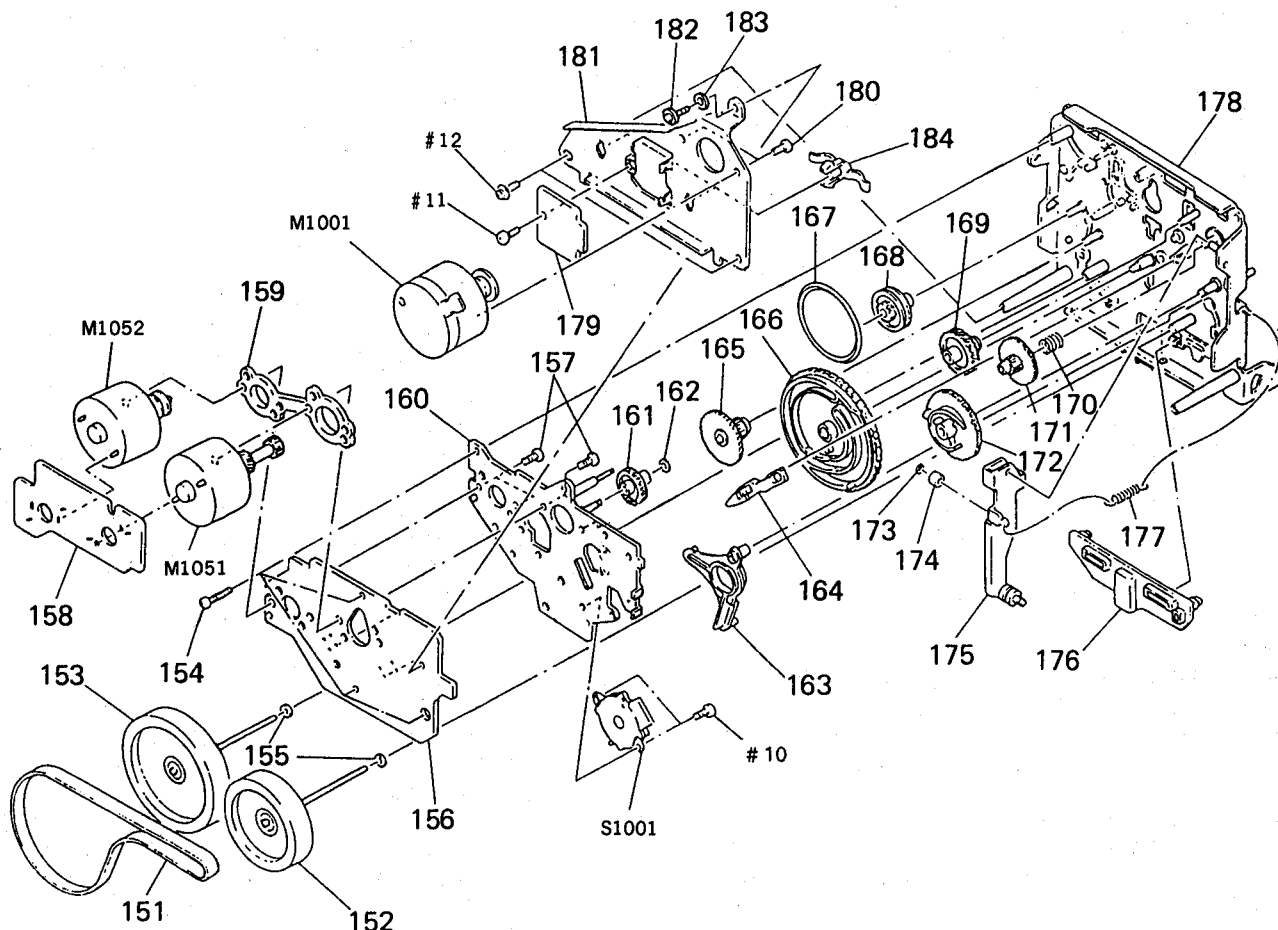
Ref. No.	Part No.	Description	Remark
60	3-354-930-01	BUTTON (D)	
61	4-922-518-01	KNOB (TIMER)	
62	3-354-931-01	KNOB (DIA. 10)	
63	3-356-935-01	SPRING	
64	3-365-420-01	HOLDER, FL TUBE	
65	9-911-844-11	CUSHION	
66	3-354-932-01	BUTTON (POWER)	
67	* A-2006-393-A	PANEL BOARD, COMPLETE	
FL901	1-519-594-11	INDICATOR TUBE, FLUORESCENT	
J501	1-507-796-71	JACK (PHONES)	
RV571	1-238-085-11	RES, VAR, CARBON 20K/20K (PHONES LEVEL)	

**6-3. MECHANISM DECK SECTION 1
(TCM-200R5)**


Ref. No.	Part No.	Description	Remark
101	X-3362-814-1	HOLDER (CD) ASSY, CASSETTE	
102	* 3-356-717-01	LEVER (JOINT)	
103	3-356-626-01	SPRING, TENSION	
104	X-3356-613-1	PLATE ASSY, ORNAMENTAL	
105	X-3343-456-1	LEVER (PINCH R) ASSY	
106	X-3343-455-1	LEVER (PINCH F) ASSY	
107	A-2003-723-A	BASE ASSY, HEAD	
108	X-3362-819-2	SLIDER (HEAD CHASSIS R) ASSY	
109	X-3356-641-1	LEVER (FR2) ASSY	
110	3-356-614-01	SLIDER (BRAKE)	
111	3-356-601-11	SCREW, STEP	
112	* X-3356-608-1	LEVER (LIFTER) ASSY	
113	3-356-713-01	WASHER	

Ref. No.	Part No.	Description	Remark
114	3-356-714-01	WASHER	
115	3-356-619-01	SPRING (B), TORSION	
116	X-3356-627-1	GEAR (T) ASSY	
117	X-3356-628-1	GEAR (S) ASSY	
118	3-356-625-01	SPRING, TENSION	
119	3-319-224-31	DAMPER, SMALL	
120	3-362-308-01	CAP (REEL)	
121	3-356-716-01	SCREW (2X4) (B TIGHT), +P	
122	3-669-465-11	WASHER (1.5), STOPPER	
D1001	8-719-980-85	DIODE SLF-325C	
D1091	8-719-950-74	DIODE SLR-314D-B	
Q1091	8-729-809-43	PHOTO SENSOR SPS-314B-BE	

6-4. MECHANISM DECK SECTION 2 (TCM-200R5)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	3-356-604-01	BELT (CAPSTAN)		170	3-356-605-01	SPRING, COMPRESSION	
152	X-3356-642-1	FLYWHEEL (R FWD) ASSY		171	3-356-609-01	GEAR (LOADING)	
153	X-3356-643-1	FLYWHEEL (R REV) ASSY		172	3-356-616-01	GEAR (LOADING CAM)	
154	3-355-801-01	SCREW (BTP 2X18)		173	3-558-708-11	WASHER, STOPPER	
155	3-356-705-01	WASHER (CAPSTAN)		174	3-356-630-01	ROLLER (LOADING)	
156	* 1-632-740-11	MD BOARD		175	* X-3356-606-1	LEVER (LOADING) ASSY	
157	3-363-804-01	SCREW (+P 2.6X6.5)		176	3-356-612-01	SLIDER (REVERSE)	
158	* 1-632-741-11	REEL MOTOR BOARD		177	3-356-624-01	SPRING, TENSION	
159	* 3-356-628-01	SPACER (MOTOR)		178	X-3356-634-1	CHASSIS (R2) COMPLETE ASSY, MECH	
160	* X-3356-602-4	BRACKET (MOTOR R) ASSY		179	* 1-634-323-11	TRANSLATION BOARD	
161	3-356-702-01	GEAR (COMMUNICATION B)		180	4-885-599-00	SCREW, FITTING, REINFORCEMENT	
162	3-669-465-00	WASHER (1.5), STOPPER		181	* 3-356-629-01	BRACKET (THRUST RETAINER R)	
163	3-356-613-01	LEVER (MODE)		182	3-356-707-01	SCREW (+PTPHW 2X25)	
164	3-356-617-01	LEVER (SELECTION)		183	* 3-356-718-01	SPACER (THRUST RETAINER R)	
165	3-356-606-01	GEAR (MODE)		184	3-575-321-00	RETAINER, THRUST, CAPSTAN	
166	3-356-615-01	GEAR (MODE CAM RR)		M1001	X-3356-605-1	MOTOR (CAPSTAN R) ASSY	
167	3-356-603-01	BELT (MODE)		M1051	X-3356-638-1	MOTOR (REEL R) ASSY	
168	3-356-607-01	PULLEY (MODE)		M1052	X-3356-604-1	MOTOR (ASSIST) ASSY	
169	3-356-703-01	GEAR (COMMUNICATION C)		S1001	1-466-525-11	ENCODER, ROTARY	

MAIN

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- CAPACITORS
uF: μ F

- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- COILS
uH: μ H
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA...: μ PA...,
uPB...: μ PB..., uPC...: μ PC...,
uPD...: μ PD...

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	* A-2006-392-A	MAIN BOARD, COMPLETE					

	* 3-309-144-21	HEAT SINK					
	* 3-356-925-01	HEAT SINK					
	* 4-880-403-11	HEAT SINK					
	7-682-548-09	SCREW +B 3X8					
	7-682-548-04	SCREW +BVT 3X8 (S)					
	< CAPACITOR >						
C101	1-124-925-11	ELECT	2.2uF 20% 100V	C145	1-136-433-11	FILM	100PF 5% 630V
C102	1-136-157-00	FILM	0.022uF 5% 50V	C146	1-130-472-00	MYLAR	0.0012uF 5% 50V
C103	1-162-294-31	CERAMIC	0.001uF 10% 50V	C151	1-136-273-91	FILM	75PF 5% 630V
C104	1-161-375-00	CERAMIC	0.0022uF 20% 50V	C152	1-162-288-31	CERAMIC	330PF 10% 50V
C105	1-130-475-00	MYLAR	0.0022uF 5% 50V	C153	1-110-342-11	MYLAR	390PF 5% 50V
C106	1-130-475-00	MYLAR	0.0022uF 5% 50V	C154	1-136-157-00	FILM	0.022uF 5% 50V
C107	1-136-174-00	FILM	0.56uF 5% 50V	C155	1-124-657-00	ELECT	10uF 20% 50V
C108	1-136-171-00	FILM	0.33uF 5% 50V	C191	1-123-382-00	ELECT	3.3uF 20% 100V
C109	1-124-927-11	ELECT	4.7uF 20% 100V	C201	1-124-925-11	ELECT	2.2uF 20% 100V
C110	1-124-927-11	ELECT	4.7uF 20% 100V	C202	1-136-157-00	FILM	0.022uF 5% 50V
C121	1-136-153-00	FILM	0.01uF 5% 50V	C203	1-162-294-31	CERAMIC	0.001uF 10% 50V
C122	1-136-157-00	FILM	0.022uF 5% 50V	C204	1-161-375-00	CERAMIC	0.0022uF 20% 50V
C123	1-136-165-00	FILM	0.1uF 5% 50V	C205	1-130-475-00	MYLAR	0.0022uF 5% 50V
C124	1-136-437-11	FILM	220PF 5% 630V	C206	1-130-475-00	MYLAR	0.0022uF 5% 50V
C125	1-136-433-11	FILM	100PF 5% 630V	C207	1-136-174-00	FILM	0.56uF 5% 50V
C126	1-130-472-00	MYLAR	0.0012uF 5% 50V	C208	1-136-171-00	FILM	0.33uF 5% 50V
C131	1-136-273-91	FILM	75PF 5% 630V	C209	1-124-927-11	ELECT	4.7uF 20% 100V
C132	1-162-288-31	CERAMIC	330PF 10% 50V	C210	1-124-927-11	ELECT	4.7uF 20% 100V
C133	1-110-342-11	MYLAR	390PF 5% 50V	C221	1-136-153-00	FILM	0.01uF 5% 50V
C134	1-136-157-00	FILM	0.022uF 5% 50V	C222	1-136-157-00	FILM	0.022uF 5% 50V
C135	1-124-657-00	ELECT	10uF 20% 50V	C223	1-136-165-00	FILM	0.1uF 5% 50V
C141	1-136-153-00	FILM	0.01uF 5% 50V	C224	1-136-437-11	FILM	220PF 5% 630V
C142	1-136-157-00	FILM	0.022uF 5% 50V	C225	1-136-433-11	FILM	100PF 5% 630V
C143	1-136-165-00	FILM	0.1uF 5% 50V	C226	1-130-472-00	MYLAR	0.0012uF 5% 50V
C144	1-136-437-11	FILM	220PF 5% 630V	C231	1-136-273-91	FILM	75PF 5% 630V
				C232	1-162-288-31	CERAMIC	330PF 10% 50V
				C233	1-110-342-11	MYLAR	390PF 5% 50V
				C234	1-136-157-00	FILM	0.022uF 5% 50V
				C235	1-124-657-00	ELECT	10uF 20% 50V
				C241	1-136-153-00	FILM	0.01uF 5% 50V
				C242	1-136-157-00	FILM	0.022uF 5% 50V
				C243	1-136-165-00	FILM	0.1uF 5% 50V
				C244	1-136-437-11	FILM	220PF 5% 630V
				C245	1-136-433-11	FILM	100PF 5% 630V
				C246	1-130-472-00	MYLAR	0.0012uF 5% 50V

Ref. No.	Part No.	Description	Remark		
C251	1-136-273-91	FILM	75PF	5%	630V
C252	1-162-288-31	CERAMIC	330PF	10%	50V
C253	1-110-342-11	MYLAR	390PF	5%	50V
C254	1-136-157-00	FILM	0.022uF	5%	50V
C255	1-124-657-00	ELECT	10uF	20%	50V
C291	1-123-382-00	ELECT	3.3uF	20%	100V
C501	1-124-903-11	ELECT	1uF	20%	50V
C502	1-124-925-11	ELECT	2.2uF	20%	100V
C503	1-124-925-11	ELECT	2.2uF	20%	100V
C521	1-124-925-11	ELECT	2.2uF	20%	100V
C522	1-124-902-00	ELECT	0.47uF	20%	50V
C523	1-136-230-00	FILM	0.0022uF	5%	100V
C524	1-136-230-00	FILM	0.0022uF	5%	100V
C525	1-130-856-00	FILM	0.0068uF	5%	100V
C526	1-124-907-11	ELECT	10uF	20%	50V
C527	1-136-601-11	FILM	0.01uF	5%	630V
C528	1-124-477-11	ELECT	47uF	20%	25V
C529	1-124-477-11	ELECT	47uF	20%	25V
C530	1-107-045-00	MICA	3.9PF		500V
C535	1-126-176-11	ELECT	220uF	20%	10V
C536	1-126-176-11	ELECT	220uF	20%	10V
C541	1-124-925-11	ELECT	2.2uF	20%	100V
C542	1-124-902-00	ELECT	0.47uF	20%	50V
C543	1-136-230-00	FILM	0.0022uF	5%	100V
C544	1-136-230-00	FILM	0.0022uF	5%	100V
C545	1-130-856-00	FILM	0.0068uF	5%	100V
C546	1-124-907-11	ELECT	10uF	20%	50V
C547	1-136-601-11	FILM	0.01uF	5%	630V
C548	1-124-477-11	ELECT	47uF	20%	25V
C549	1-124-477-11	ELECT	47uF	20%	25V
C550	1-107-045-00	MICA	3.9PF		500V
C555	1-126-176-11	ELECT	220uF	20%	10V
C556	1-126-176-11	ELECT	220uF	20%	10V
C561	1-124-120-11	ELECT	220uF	20%	25V
C581	1-124-925-11	ELECT	2.2uF	20%	100V
C582	1-162-217-31	CERAMIC	56PF	5%	50V
C583	1-136-157-00	FILM	0.022uF	5%	50V
C585	1-162-286-31	CERAMIC	220PF	10%	50V
C586	1-124-925-11	ELECT	2.2uF	20%	100V
C587	1-124-925-11	ELECT	2.2uF	20%	100V
C701	1-124-927-11	ELECT	4.7uF	20%	100V
C702	1-124-772-11	ELECT	10000uF	20%	25V
C703	1-124-126-00	ELECT	47uF	20%	10V
C704	1-124-898-11	ELECT	4700uF	20%	16V
C705	1-124-556-11	ELECT	2200uF	20%	16V
C706	1-124-443-00	ELECT	100uF	20%	10V
C707	1-124-471-00	ELECT	1000uF	20%	6.3V
C708	1-124-919-11	ELECT	220uF	20%	63V
C709	1-124-927-11	ELECT	4.7uF	20%	100V

Ref. No.	Part No.	Description	Remark		
C710	1-124-927-11	ELECT	4.7uF	20%	100V
C751	1-124-556-11	ELECT	2200uF	20%	16V
C752	1-124-556-11	ELECT	2200uF	20%	16V
C753	1-124-120-11	ELECT	220uF	20%	25V
C754	1-124-120-11	ELECT	220uF	20%	25V
C755	1-124-925-11	ELECT	2.2uF	20%	100V
C756	1-162-286-31	CERAMIC	220PF	10%	50V
C757	1-162-286-31	CERAMIC	220PF	10%	50V
C758	1-126-176-11	ELECT	220uF	20%	10V
C759	1-126-176-11	ELECT	220uF	20%	10V
C801	1-124-443-00	ELECT	100uF	20%	10V
C803	1-161-494-00	CERAMIC	0.022uF		25V
C804	1-162-306-11	CERAMIC	0.01uF	20%	16V
C805	1-124-925-11	ELECT	2.2uF	20%	100V
C807	1-164-159-11	CERAMIC	0.1uF		50V
C811	1-126-233-11	ELECT	22uF	20%	50V
C831	1-124-927-11	ELECT	4.7uF	20%	100V
C832	1-124-477-11	ELECT	47uF	20%	25V
C833	1-130-479-00	MYLAR	0.0047uF	5%	50V
C841	1-124-927-11	ELECT	4.7uF	20%	100V
C842	1-124-477-11	ELECT	47uF	20%	25V
C843	1-130-479-00	MYLAR	0.0047uF	5%	50V
C851	1-124-443-00	ELECT	100uF	20%	10V
C871	1-164-159-11	CERAMIC	0.1uF		50V
C872	1-164-159-11	CERAMIC	0.1uF		50V
C881	1-164-159-11	CERAMIC	0.1uF		50V
C882	1-164-159-11	CERAMIC	0.1uF		50V

< CONNECTOR >

CN541 * 1-564-336-00 PIN. CONNECTOR 2P
 CN561 * 1-564-705-11 PIN. CONNECTOR (SMALL TYPE) 3P
 CN562 * 1-564-705-11 PIN. CONNECTOR (SMALL TYPE) 3P
 CN571 * 1-564-707-11 PIN. CONNECTOR (SMALL TYPE) 5P
 CN701 * 1-564-513-11 PLUG. CONNECTOR 10P

CN801 * 1-564-340-61 PIN. CONNECTOR 6P
 CN802 * 1-564-510-11 PLUG. CONNECTOR 7P
 CN803 * 1-564-338-00 PIN. CONNECTOR 4P
 CN804 * 1-564-338-61 PIN. CONNECTOR 4P
 CN805 * 1-564-338-71 PIN. CONNECTOR 4P

CNP601 * 1-560-339-00 PIN. CONNECTOR 9P
 CNP602 * 1-560-339-00 PIN. CONNECTOR 9P

< COMPOSITION CIRCUIT BLOCK >

CP851 1-233-199-11 COMPOSITION CIRCUIT BLOCK 10KX8
 CP852 1-233-199-11 COMPOSITION CIRCUIT BLOCK 10KX8

MAIN

Ref. No.	Part No.	Description	Remark
< DIODE >			
D191	8-719-912-20	DIODE 1SS120	
D291	8-719-912-20	DIODE 1SS120	
D501	8-719-912-20	DIODE 1SS120	
D502	8-719-912-20	DIODE 1SS120	
D503	8-719-933-54	DIODE HZS9A2L	
D521	8-719-912-20	DIODE 1SS120	
D522	8-719-912-20	DIODE 1SS120	
D541	8-719-912-20	DIODE 1SS120	
D542	8-719-912-20	DIODE 1SS120	
D561	8-719-912-20	DIODE 1SS120	
D701	8-719-200-77	DIODE 10E2N	
D702	△ 8-719-500-36	DIODE D2SB20	
D703	8-719-912-20	DIODE 1SS120	
D704	8-719-933-70	DIODE HZS11C2L	
D705	8-719-200-77	DIODE 10E2N	
D706	8-719-933-41	DIODE HZS6C3L	
D707	8-719-912-20	DIODE 1SS120	
D708	8-719-933-38	DIODE HZS6B3L	
D751	8-719-200-77	DIODE 10E2N	
D752	8-719-200-77	DIODE 10E2N	
D753	8-719-200-77	DIODE 10E2N	
D754	8-719-200-77	DIODE 10E2N	
D756	8-719-912-20	DIODE 1SS120	
D757	8-719-933-33	DIODE HZS6A1L	
D758	8-719-912-20	DIODE 1SS120	
D759	8-719-912-20	DIODE 1SS120	
D801	8-719-912-20	DIODE 1SS120	
D802	8-719-912-20	DIODE 1SS120	
D804	8-719-912-20	DIODE 1SS120	
D805	8-719-912-20	DIODE 1SS120	
D831	8-719-912-20	DIODE 1SS120	
D841	8-719-912-20	DIODE 1SS120	
< IC >			
IC501	8-759-106-56	IC uPC1297CA	
IC502	8-759-106-56	IC uPC1297CA	
IC503	8-759-111-44	IC uPC4570C-1	
IC504	8-759-111-44	IC uPC4570C-1	
IC505	8-752-035-94	IC CXA1331S	
IC506	8-759-140-53	IC uPD4053BC	
IC508	8-759-945-58	IC RC4558P	
IC509	8-759-945-58	IC RC4558P	
IC801	8-759-636-41	IC M50944-159SP	
IC802	8-759-633-86	IC M50747-B83SP	
IC804	8-759-240-71	IC TC4071BP	
IC805	8-759-973-95	IC BA6219B	

Ref. No.	Part No.	Description	Remark
IC806	8-759-822-09	IC LB1641	
IC807	8-759-973-95	IC BA6219B	
IC808	8-759-822-09	IC LB1641	
< COIL >			
L131	1-410-780-11	INDUCTOR 27mH	
L151	1-410-780-11	INDUCTOR 27mH	
L231	1-410-780-11	INDUCTOR 27mH	
L251	1-410-780-11	INDUCTOR 27mH	
< FILTER >			
LPF101	1-235-980-11	FILTER, LOW PASS	
LPF201	1-235-980-11	FILTER, LOW PASS	
< JACK >			
PJ561	1-565-258-11	JACK, PIN 4P (LINE IN/OUT)	
< TRANSISTOR >			
Q101	8-729-900-74	TRANSISTOR DTC143TS	
Q102	8-729-900-80	TRANSISTOR DTC114ES	
Q161	8-729-922-37	TRANSISTOR 2SD2144S	
Q201	8-729-900-74	TRANSISTOR DTC143TS	
Q202	8-729-900-80	TRANSISTOR DTC114ES	
Q261	8-729-922-37	TRANSISTOR 2SD2144S	
Q501	8-729-900-65	TRANSISTOR DTA144ES	
Q502	8-729-900-65	TRANSISTOR DTA144ES	
Q503	8-729-900-65	TRANSISTOR DTA144ES	
Q504	8-729-900-65	TRANSISTOR DTA144ES	
Q505	8-729-900-80	TRANSISTOR DTC114ES	
Q521	8-729-900-65	TRANSISTOR DTA144ES	
Q522	8-729-900-65	TRANSISTOR DTA144ES	
Q523	8-729-900-61	TRANSISTOR DTA114ES	
Q524	8-729-900-89	TRANSISTOR DTC144ES	
Q525	8-729-900-89	TRANSISTOR DTC144ES	
Q526	8-729-900-80	TRANSISTOR DTC114ES	
Q527	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q528	8-729-194-57	TRANSISTOR 2SC945-P	
Q529	8-729-194-57	TRANSISTOR 2SC945-P	
Q541	8-729-900-65	TRANSISTOR DTA144ES	
Q542	8-729-900-65	TRANSISTOR DTA144ES	
Q543	8-729-900-61	TRANSISTOR DTA114ES	
Q544	8-729-900-89	TRANSISTOR DTC144ES	
Q545	8-729-900-89	TRANSISTOR DTC144ES	
Q546	8-729-900-80	TRANSISTOR DTC114ES	
Q547	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q548	8-729-194-57	TRANSISTOR 2SC945-P	
Q549	8-729-194-57	TRANSISTOR 2SC945-P	
Q561	8-729-900-65	TRANSISTOR DTA144ES	

Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

MAIN

Ref. No.	Part No.	Description	Remark
Q562	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q581	8-729-900-65	TRANSISTOR DTA144ES	
Q582	8-729-900-89	TRANSISTOR DTC144ES	
Q701	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q702	8-729-924-90	TRANSISTOR 2SB1370-EF	
Q703	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q704	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q705	8-729-111-55	TRANSISTOR 2SD1312-K	
Q706	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q707	8-729-140-04	TRANSISTOR 2SB1116A-L	
Q751	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q752	8-729-111-55	TRANSISTOR 2SD1312-K	
Q753	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q754	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q755	8-729-924-90	TRANSISTOR 2SB1370-EF	
Q756	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q757	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q801	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q802	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q803	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q831	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q832	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q841	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q842	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q871	8-729-900-65	TRANSISTOR DTA144ES	
Q872	8-729-900-80	TRANSISTOR DTC114ES	
Q873	8-729-900-80	TRANSISTOR DTC114ES	
Q874	8-729-900-80	TRANSISTOR DTC114ES	
Q881	8-729-900-65	TRANSISTOR DTA144ES	
Q882	8-729-900-89	TRANSISTOR DTC144ES	
Q883	8-729-900-80	TRANSISTOR DTC114ES	
Q884	8-729-900-80	TRANSISTOR DTC114ES	
Q885	8-729-900-80	TRANSISTOR DTC114ES	
< RESISTOR >			
R101	1-249-421-11	CARBON 2.2K 5%	1/4W
R102	1-249-423-11	CARBON 3.3K 5%	1/4W
R103	1-247-887-00	CARBON 220K 5%	1/4W
R104	1-249-441-11	CARBON 100K 5%	1/4W
R105	1-249-423-11	CARBON 3.3K 5%	1/4W
R106	1-249-428-11	CARBON 8.2K 5%	1/4W
R107	1-247-864-11	CARBON 24K 5%	1/4W
R108	1-249-414-11	CARBON 560 5%	1/4W
R121	1-249-427-11	CARBON 6.8K 5%	1/4W
R122	1-249-431-11	CARBON 15K 5%	1/4W
R123	△ 1-219-153-11	FUSIBLE 10 5%	1/4W F
R124	1-247-884-11	CARBON 160K 5%	1/4W
R131	1-249-430-11	CARBON 12K 5%	1/4W
R132	1-247-881-00	CARBON 120K 5%	1/4W

Ref. No.	Part No.	Description	Remark
R133	1-249-405-11	CARBON 100 5%	1/4W
R134	1-247-882-11	CARBON 130K 5%	1/4W
R135	1-249-426-11	CARBON 5.6K 5%	1/4W
R141	1-249-427-11	CARBON 6.8K 5%	1/4W
R142	1-249-431-11	CARBON 15K 5%	1/4W
R143	△ 1-219-153-11	FUSIBLE 10 5%	1/4W F
R144	1-247-884-11	CARBON 160K 5%	1/4W
R151	1-249-430-11	CARBON 12K 5%	1/4W
R152	1-247-881-00	CARBON 120K 5%	1/4W
R153	1-249-405-11	CARBON 100 5%	1/4W
R154	1-247-882-11	CARBON 130K 5%	1/4W
R155	1-249-426-11	CARBON 5.6K 5%	1/4W
R161	1-249-433-11	CARBON 22K 5%	1/4W
R162	1-249-417-11	CARBON 1K 5%	1/4W
R163	1-249-421-11	CARBON 2.2K 5%	1/4W
R164	1-249-432-11	CARBON 18K 5%	1/4W
R165	1-249-421-11	CARBON 2.2K 5%	1/4W
R191	1-249-429-11	CARBON 10K 5%	1/4W
R192	1-247-864-11	CARBON 24K 5%	1/4W
R193	1-249-434-11	CARBON 27K 5%	1/4W
R194	1-249-408-11	CARBON 180 5%	1/4W
R201	1-249-421-11	CARBON 2.2K 5%	1/4W
R202	1-249-423-11	CARBON 3.3K 5%	1/4W
R203	1-247-887-00	CARBON 220K 5%	1/4W
R204	1-249-441-11	CARBON 100K 5%	1/4W
R205	1-249-423-11	CARBON 3.3K 5%	1/4W
R206	1-249-428-11	CARBON 8.2K 5%	1/4W
R207	1-247-864-11	CARBON 24K 5%	1/4W
R208	1-249-414-11	CARBON 560 5%	1/4W
R221	1-249-427-11	CARBON 6.8K 5%	1/4W
R222	1-249-431-11	CARBON 15K 5%	1/4W
R223	△ 1-219-153-11	FUSIBLE 10 5%	1/4W F
R224	1-247-884-11	CARBON 160K 5%	1/4W
R231	1-249-430-11	CARBON 12K 5%	1/4W
R232	1-247-881-00	CARBON 120K 5%	1/4W
R233	1-249-405-11	CARBON 100 5%	1/4W
R234	1-247-882-11	CARBON 130K 5%	1/4W
R235	1-249-426-11	CARBON 5.6K 5%	1/4W
R241	1-249-427-11	CARBON 6.8K 5%	1/4W
R242	1-249-431-11	CARBON 15K 5%	1/4W
R243	△ 1-219-153-11	FUSIBLE 10 5%	1/4W F
R244	1-247-884-11	CARBON 160K 5%	1/4W
R251	1-249-430-11	CARBON 12K 5%	1/4W
R252	1-247-881-00	CARBON 120K 5%	1/4W
R253	1-249-405-11	CARBON 100 5%	1/4W
R254	1-247-882-11	CARBON 130K 5%	1/4W
R255	1-249-426-11	CARBON 5.6K 5%	1/4W
R261	1-249-433-11	CARBON 22K 5%	1/4W
R262	1-249-417-11	CARBON 1K 5%	1/4W

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MAIN

Ref. No.	Part No.	Description	Remark		
R263	1-249-421-11	CARBON	2. 2K	5%	1/4W
R264	1-249-432-11	CARBON	18K	5%	1/4W
R265	1-249-421-11	CARBON	2. 2K	5%	1/4W
R291	1-249-429-11	CARBON	10K	5%	1/4W
R292	1-247-864-11	CARBON	24K	5%	1/4W
R293	1-249-434-11	CARBON	27K	5%	1/4W
R294	1-249-408-11	CARBON	180	5%	1/4W
R501	1-249-441-11	CARBON	100K	5%	1/4W
R502	1-249-417-11	CARBON	1K	5%	1/4W
R503	1-215-455-00	METAL	27K	1%	1/6W
R504	1-249-417-11	CARBON	1K	5%	1/4W
R505	1-249-433-11	CARBON	22K	5%	1/4W
R506	1-249-433-11	CARBON	22K	5%	1/4W
R507	1-249-433-11	CARBON	22K	5%	1/4W
R521	1-249-425-11	CARBON	4. 7K	5%	1/4W
R522	1-249-422-11	CARBON	2. 7K	5%	1/4W
R523	1-249-428-11	CARBON	8. 2K	5%	1/4W
R524	1-249-441-11	CARBON	100K	5%	1/4W
R526	1-247-846-11	CARBON	4. 3K	5%	1/4W
R527	1-249-421-11	CARBON	2. 2K	5%	1/4W
R528	1-249-429-11	CARBON	10K	5%	1/4W
R529	1-249-441-11	CARBON	100K	5%	1/4W
R530	1-249-441-11	CARBON	100K	5%	1/4W
R531	1-249-390-11	CARBON	5. 6	5%	1/6W
R532	1-249-390-11	CARBON	5. 6	5%	1/6W
R541	1-249-425-11	CARBON	4. 7K	5%	1/4W
R542	1-249-422-11	CARBON	2. 7K	5%	1/4W
R543	1-249-428-11	CARBON	8. 2K	5%	1/4W
R544	1-249-441-11	CARBON	100K	5%	1/4W
R546	1-249-422-11	CARBON	2. 7K	5%	1/4W
R547	1-249-421-11	CARBON	2. 2K	5%	1/4W
R548	1-249-429-11	CARBON	10K	5%	1/4W
R549	1-249-441-11	CARBON	100K	5%	1/4W
R550	1-249-441-11	CARBON	100K	5%	1/4W
R551	1-249-390-11	CARBON	5. 6	5%	1/6W
R552	1-249-390-11	CARBON	5. 6	5%	1/6W
R561	1-249-409-11	CARBON	220	5%	1/4W
R562	1-249-433-11	CARBON	22K	5%	1/4W
R581	1-247-887-00	CARBON	220K	5%	1/4W
R582	1-249-425-11	CARBON	4. 7K	5%	1/4W
R583	1-249-441-11	CARBON	100K	5%	1/4W
R584	1-249-428-11	CARBON	8. 2K	5%	1/4W
R585	1-249-441-11	CARBON	100K	5%	1/4W
R586	1-249-423-11	CARBON	3. 3K	5%	1/4W
R587	1-249-421-11	CARBON	2. 2K	5%	1/4W
R588	1-249-441-11	CARBON	100K	5%	1/4W
R700	△ 1-219-119-11	FUSIBLE	0. 1	5%	1/4W F
R701	1-249-433-11	CARBON	22K	5%	1/4W
R702	1-249-421-11	CARBON	2. 2K	5%	1/4W

Ref. No.	Part No.	Description	Remark		
R703	△ 1-219-154-11	FUSIBLE	0. 12	10%	1/4W F
R704	△ 1-219-136-11	FUSIBLE	0. 22	10%	1/4W F
R705	1-249-422-11	CARBON	2. 7K	5%	1/4W
R706	1-249-421-11	CARBON	2. 2K	5%	1/4W
R707	1-249-421-11	CARBON	2. 2K	5%	1/4W
R708	1-249-430-11	CARBON	12K	5%	1/4W
R709	1-247-856-00	CARBON	11K	5%	1/4W
R710	1-249-436-11	CARBON	39K	5%	1/4W
R751	1-249-433-11	CARBON	22K	5%	1/4W
R752	1-249-421-11	CARBON	2. 2K	5%	1/4W
R753	1-249-421-11	CARBON	2. 2K	5%	1/4W
R754	1-249-421-11	CARBON	2. 2K	5%	1/4W
R755	1-249-421-11	CARBON	2. 2K	5%	1/4W
R756	1-249-417-11	CARBON	1K	5%	1/4W
R757	1-249-417-11	CARBON	1K	5%	1/4W
R758	1-249-417-11	CARBON	1K	5%	1/4W
R759	1-249-415-11	CARBON	680	5%	1/4W
R760	1-249-422-11	CARBON	2. 7K	5%	1/4W
R761	1-249-424-11	CARBON	3. 9K	5%	1/4W
R762	1-249-423-11	CARBON	3. 3K	5%	1/4W
R763	1-249-405-11	CARBON	100	5%	1/4W
R801	1-249-405-11	CARBON	100	5%	1/4W
R802	1-249-405-11	CARBON	100	5%	1/4W
R803	1-249-405-11	CARBON	100	5%	1/4W
R804	1-249-405-11	CARBON	100	5%	1/4W
R805	1-249-405-11	CARBON	100	5%	1/4W
R806	1-249-421-11	CARBON	2. 2K	5%	1/4W
R807	1-249-421-11	CARBON	2. 2K	5%	1/4W
R808	1-249-421-11	CARBON	2. 2K	5%	1/4W
R809	1-249-421-11	CARBON	2. 2K	5%	1/4W
R810	1-249-421-11	CARBON	2. 2K	5%	1/4W
R811	1-249-433-11	CARBON	22K	5%	1/4W
R812	1-249-433-11	CARBON	22K	5%	1/4W
R813	1-247-903-00	CARBON	1M	5%	1/4W
R814	1-249-425-11	CARBON	4. 7K	5%	1/4W
R815	1-249-433-11	CARBON	22K	5%	1/4W
R816	1-249-433-11	CARBON	22K	5%	1/4W
R817	1-249-424-11	CARBON	3. 9K	5%	1/4W
R818	1-249-433-11	CARBON	22K	5%	1/4W
R819	1-249-433-11	CARBON	22K	5%	1/4W
R820	1-249-429-11	CARBON	10K	5%	1/4W
R821	1-249-441-11	CARBON	100K	5%	1/4W
R822	1-249-417-11	CARBON	1K	5%	1/4W
R823	1-249-437-11	CARBON	47K	5%	1/4W
R826	1-249-429-11	CARBON	10K	5%	1/4W
R831	1-249-429-11	CARBON	10K	5%	1/4W
R832	1-249-433-11	CARBON	22K	5%	1/4W
R833	1-249-429-11	CARBON	10K	5%	1/4W
R834	1-249-421-11	CARBON	2. 2K	5%	1/4W

Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

MAIN

MD

Ref. No.	Part No.	Description	Remark		
R835	1-249-429-11	CARBON	10K	5%	1/4W
R836	1-249-417-11	CARBON	1K	5%	1/4W
R837	1-249-412-11	CARBON	390	5%	1/4W
R841	1-249-429-11	CARBON	10K	5%	1/4W
R842	1-249-433-11	CARBON	22K	5%	1/4W
R843	1-249-429-11	CARBON	10K	5%	1/4W
R844	1-249-421-11	CARBON	2.2K	5%	1/4W
R845	1-249-429-11	CARBON	10K	5%	1/4W
R846	1-249-417-11	CARBON	1K	5%	1/4W
R847	1-249-412-11	CARBON	390	5%	1/4W
R851	1-247-903-00	CARBON	1M	5%	1/4W
R852	1-249-425-11	CARBON	4.7K	5%	1/4W
R853	1-249-425-11	CARBON	4.7K	5%	1/4W
R854	1-249-425-11	CARBON	4.7K	5%	1/4W
R855	1-249-425-11	CARBON	4.7K	5%	1/4W
R856	1-249-425-11	CARBON	4.7K	5%	1/4W
R857	1-249-425-11	CARBON	4.7K	5%	1/4W
R858	1-249-425-11	CARBON	4.7K	5%	1/4W
R859	1-249-425-11	CARBON	4.7K	5%	1/4W
R861	1-249-436-11	CARBON	39K	5%	1/4W
R862	1-249-436-11	CARBON	39K	5%	1/4W
R863	1-247-895-00	CARBON	470K	5%	1/4W
R864	1-247-895-00	CARBON	470K	5%	1/4W
R865	1-249-436-11	CARBON	39K	5%	1/4W
R866	1-249-436-11	CARBON	39K	5%	1/4W
R867	1-247-895-00	CARBON	470K	5%	1/4W
R868	1-247-895-00	CARBON	470K	5%	1/4W
R869	1-249-429-11	CARBON	10K	5%	1/4W
R871	1-249-433-11	CARBON	22K	5%	1/4W
R872	1-249-434-11	CARBON	27K	5%	1/4W
R873	1-249-411-11	CARBON	330	5%	1/4W
R874	1-247-830-11	CARBON	910	5%	1/4W
R875	1-249-418-11	CARBON	1.2K	5%	1/4W
R876	1-249-417-11	CARBON	1K	5%	1/4W
R877	△ 1-249-482-11	CARBON	4.7	5%	1/2W F
R878	1-249-421-11	CARBON	2.2K	5%	1/4W
R879	1-249-419-11	CARBON	1.5K	5%	1/4W
R880	1-249-417-11	CARBON	1K	5%	1/4W
R881	△ 1-249-482-11	CARBON	4.7	5%	1/2W F
R882	1-249-433-11	CARBON	22K	5%	1/4W
R883	1-249-434-11	CARBON	27K	5%	1/4W
R884	1-249-411-11	CARBON	330	5%	1/4W
R885	1-247-830-11	CARBON	910	5%	1/4W
R886	1-249-418-11	CARBON	1.2K	5%	1/4W
R887	1-249-417-11	CARBON	1K	5%	1/4W
R888	△ 1-249-482-11	CARBON	4.7	5%	1/2W F
R889	1-249-421-11	CARBON	2.2K	5%	1/4W
R890	1-249-419-11	CARBON	1.5K	5%	1/4W

Ref. No.	Part No.	Description	Remark		
R891	1-249-417-11	CARBON	1K	5%	1/4W
R892	△ 1-249-482-11	CARBON	4.7	5%	1/2W F
R893	1-249-433-11	CARBON	22K	5%	1/4W

< VARIABLE RESISTOR >

RV121	1-237-459-11	RES. ADJ. CARBON 10K
RV131	1-237-457-21	RES. ADJ. CARBON 2K
RV141	1-237-459-11	RES. ADJ. CARBON 10K
RV151	1-237-457-21	RES. ADJ. CARBON 2K
RV221	1-237-459-11	RES. ADJ. CARBON 10K

RV231	1-237-457-21	RES. ADJ. CARBON 2K
RV241	1-237-459-11	RES. ADJ. CARBON 10K
RV251	1-237-457-21	RES. ADJ. CARBON 2K
RV831	1-237-461-11	RES. ADJ. CARBON 50K
RV841	1-237-461-11	RES. ADJ. CARBON 50K

RV871	1-237-459-11	RES. ADJ. CARBON 10K
RV872	1-237-458-21	RES. ADJ. CARBON 5K
RV881	1-237-459-11	RES. ADJ. CARBON 10K
RV882	1-237-458-21	RES. ADJ. CARBON 5K

< RELAY >

RY531	1-515-683-11	RELAY
RY551	1-515-683-11	RELAY

< TRANSFORMER >

T121	1-433-367-11	TRANSFORMER, BIAS OSCILLATION
T141	1-433-367-11	TRANSFORMER, BIAS OSCILLATION
T221	1-433-367-11	TRANSFORMER, BIAS OSCILLATION
T241	1-433-367-11	TRANSFORMER, BIAS OSCILLATION
T521	1-433-366-11	TRANSFORMER, BIAS OSCILLATION
T541	1-433-366-11	TRANSFORMER, BIAS OSCILLATION

< TEST PIN >

TP521	* 1-564-506-11	PLUG, CONNECTOR 3P
TP541	* 1-564-506-11	PLUG, CONNECTOR 3P
TP581	* 1-564-505-11	PLUG, CONNECTOR 2P
TP801	* 1-564-505-11	PLUG, CONNECTOR 2P
TP802	* 1-564-505-11	PLUG, CONNECTOR 2P
TP803	* 1-564-505-11	PLUG, CONNECTOR 2P

< CERAMIC >

X801	1-577-358-21	VIBRATOR, CERAMIC 4MHz
X802	1-577-358-21	VIBRATOR, CERAMIC 4MHz

* 1-632-740-11 MD BOARD

3-356-631-01 HOLDER (SENSOR)

Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

MD	COVER	DISPLAY	HP	POWER SW	PT	REC EQ	SW (A)	SW (B)
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Ref. No.	Part No.	Description	Remark
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< CONNECTOR >

CN1001	1-506-615-11	PIN. CONNECTOR 9P	
CN1002 *	1-564-502-11	PIN. CONNECTOR 10P	

< IC >

IC1001	8-749-920-97	IC PHOTO REFLECTOR GP2S22B	
IC1002	8-749-920-97	IC PHOTO REFLECTOR GP2S22B	

< RESISTOR >

R1001	1-249-408-11	CARBON	180	5%	1/4W
R1002	1-249-408-11	CARBON	180	5%	1/4W

< SWITCH >

S1002	1-570-953-11	SWITCH. PUSH (1 KEY) (DOOR)	
S1003	1-571-958-11	SWITCH. PUSH (1 KEY) (CLOSE)	
S1004	1-572-126-11	SWITCH. PUSH (1 KEY) (OPEN)	
S1005	1-572-125-11	SWITCH. LEAF (FWD TAB)	
S1006	1-572-202-11	SWITCH. LEAF (HALF)	

S1007	1-572-125-11	SWITCH. LEAF (METAL)	
S1008	1-572-125-11	SWITCH. LEAF (70uS)	
S1009	1-572-125-11	SWITCH. LEAF (REV TAB)	

< CONNECTOR >

TB1001 *	1-569-066-11	PIN. CONNECTOR 5P	
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* A-2006-393-A PANEL BOARD, COMPLETE (INCL. COVER BOARD,
DISPLAY BOARD, HP BOARD, POWER SW BOARD, PT BOARD,
REC EQ BOARD, SW (A) BOARD, SW (B) BOARD)

3-365-420-01 HOLDER, FL TUBE
9-911-844-XX CUSHION

< CAPACITOR >

C171	1-126-157-11	ELECT	10uF	20%	16V
C172	1-162-288-31	CERAMIC	330PF	10%	50V
C271	1-126-157-11	ELECT	10uF	20%	16V
C272	1-162-288-31	CERAMIC	330PF	10%	50V
C301	1-124-902-00	ELECT	0.47uF	20%	50V
C303	1-124-927-11	ELECT	4.7uF	20%	100V
C304	1-124-927-11	ELECT	4.7uF	20%	100V
C351	1-124-902-00	ELECT	0.47uF	20%	50V
C353	1-124-927-11	ELECT	4.7uF	20%	100V
C354	1-124-927-11	ELECT	4.7uF	20%	100V
C401	1-124-902-00	ELECT	0.47uF	20%	50V
C403	1-124-927-11	ELECT	4.7uF	20%	100V
C404	1-124-927-11	ELECT	4.7uF	20%	100V

Ref. No.	Part No.	Description	Remark
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C451	1-124-902-00	ELECT	0.47uF 20% 50V
C453	1-124-927-11	ELECT	4.7uF 20% 100V
C454	1-124-927-11	ELECT	4.7uF 20% 100V
C571	1-126-157-11	ELECT	10uF 20% 16V
C572	1-126-157-11	ELECT	10uF 20% 16V

C573	1-161-494-00	CERAMIC	0.022uF 25V
C601	1-124-903-11	ELECT	1uF 20% 50V
C651	1-124-903-11	ELECT	1uF 20% 50V
C901	1-161-494-00	CERAMIC	0.022uF 25V
C902	1-164-159-11	CERAMIC	0.1uF 50V

C903	1-124-443-00	ELECT	100uF 20% 10V
C904	1-162-294-31	CERAMIC	0.001uF 10% 50V

< CONNECTOR >

CN572 *	1-564-721-11	PIN. CONNECTOR (SMALL TYPE) 5P	
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CNJ601 *	1-563-660-11	CONNECTOR 9P	
CNJ602 *	1-563-660-11	CONNECTOR 9P	

< DIODE >

D601	8-719-912-20	DIODE 1SS120	
D602	8-719-912-20	DIODE 1SS120	
D651	8-719-912-20	DIODE 1SS120	
D652	8-719-912-20	DIODE 1SS120	

< FLUORESCENT INDICATOR >

FL901	1-519-594-11	INDICATOR TUBE, FLUORESCENT	
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< IC >

IC507	8-759-634-50	IC M5218AL	
IC601	8-752-038-02	IC CXA1198AP	
IC602	8-752-038-02	IC CXA1198AP	
IC603	8-759-208-06	IC TC4051BPHB	
IC901	8-759-323-40	IC HD614023SA85	
IC902	8-741-100-48	IC SBX1610-59	

< JACK >

J501	1-507-796-71	JACK (PHONES)	
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< TRANSISTOR >

Q301	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q351	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q401	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q451	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q601	8-729-900-65	TRANSISTOR DTA144ES	
Q602	8-729-900-89	TRANSISTOR DTC144ES	
Q603	8-729-900-89	TRANSISTOR DTC144ES	
Q604	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q605	8-729-900-89	TRANSISTOR DTC144ES	

COVER

DISPLAY

HP

POWER SW

PT

REC EQ

SW (A)

SW (B)

Ref. No.	Part No.	Description	Remark		
Q651	8-729-900-65	TRANSISTOR DTA144ES			
Q652	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q653	8-729-900-89	TRANSISTOR DTC144ES			
Q901	8-729-900-61	TRANSISTOR DTA114ES			
Q902	8-729-900-61	TRANSISTOR DTA114ES			
Q903	8-729-620-05	TRANSISTOR 2SC2603-EF			
< RESISTOR >					
R171	1-249-432-11	CARBON	18K	5%	1/4W
R172	1-249-421-11	CARBON	2.2K	5%	1/4W
R173	1-249-432-11	CARBON	18K	5%	1/4W
R174	1-249-409-11	CARBON	220	5%	1/4W
R271	1-249-432-11	CARBON	18K	5%	1/4W
R272	1-249-421-11	CARBON	2.2K	5%	1/4W
R273	1-249-432-11	CARBON	18K	5%	1/4W
R274	1-249-409-11	CARBON	220	5%	1/4W
R301	1-249-429-11	CARBON	10K	5%	1/4W
R302	1-249-425-11	CARBON	4.7K	5%	1/4W
R304	1-249-425-11	CARBON	4.7K	5%	1/4W
R305	1-249-425-11	CARBON	4.7K	5%	1/4W
R306	1-249-425-11	CARBON	4.7K	5%	1/4W
R351	1-249-429-11	CARBON	10K	5%	1/4W
R352	1-249-425-11	CARBON	4.7K	5%	1/4W
R354	1-249-425-11	CARBON	4.7K	5%	1/4W
R355	1-249-425-11	CARBON	4.7K	5%	1/4W
R356	1-249-425-11	CARBON	4.7K	5%	1/4W
R401	1-249-429-11	CARBON	10K	5%	1/4W
R402	1-249-425-11	CARBON	4.7K	5%	1/4W
R404	1-249-425-11	CARBON	4.7K	5%	1/4W
R405	1-249-425-11	CARBON	4.7K	5%	1/4W
R406	1-249-425-11	CARBON	4.7K	5%	1/4W
R451	1-249-429-11	CARBON	10K	5%	1/4W
R452	1-249-425-11	CARBON	4.7K	5%	1/4W
R454	1-249-425-11	CARBON	4.7K	5%	1/4W
R455	1-249-425-11	CARBON	4.7K	5%	1/4W
R456	1-249-425-11	CARBON	4.7K	5%	1/4W
R545	1-249-424-11	CARBON	3.9K	5%	1/4W
R601	1-249-417-11	CARBON	1K	5%	1/4W
R602	1-249-441-11	CARBON	100K	5%	1/4W
R603	1-247-864-11	CARBON	24K	5%	1/4W
R604	1-249-433-11	CARBON	22K	5%	1/4W
R621	1-249-436-11	CARBON	39K	5%	1/4W
R622	1-249-435-11	CARBON	33K	5%	1/4W
R623	1-247-874-11	CARBON	62K	5%	1/4W
R624	1-247-880-11	CARBON	110K	5%	1/4W
R625	1-249-439-11	CARBON	68K	5%	1/4W
R626	1-249-439-11	CARBON	68K	5%	1/4W
R631	1-247-874-11	CARBON	62K	5%	1/4W

Ref. No.	Part No.	Description	Remark		
R632	1-247-870-11	CARBON	43K	5%	1/4W
R633	1-249-441-11	CARBON	100K	5%	1/4W
R634	1-247-880-11	CARBON	110K	5%	1/4W
R635	1-249-439-11	CARBON	68K	5%	1/4W
R636	1-247-887-00	CARBON	220K	5%	1/4W
R641	1-247-874-11	CARBON	62K	5%	1/4W
R642	1-247-872-11	CARBON	51K	5%	1/4W
R643	1-249-439-11	CARBON	68K	5%	1/4W
R644	1-249-440-11	CARBON	82K	5%	1/4W
R645	1-247-876-11	CARBON	75K	5%	1/4W
R646	1-247-887-00	CARBON	220K	5%	1/4W
R651	1-249-417-11	CARBON	1K	5%	1/4W
R652	1-249-441-11	CARBON	100K	5%	1/4W
R653	1-247-864-11	CARBON	24K	5%	1/4W
R655	1-247-887-00	CARBON	220K	5%	1/4W
R656	1-249-433-11	CARBON	22K	5%	1/4W
R657	1-249-425-11	CARBON	4.7K	5%	1/4W
R662	1-249-436-11	CARBON	39K	5%	1/4W
R663	1-249-435-11	CARBON	33K	5%	1/4W
R664	1-249-439-11	CARBON	68K	5%	1/4W
R665	1-247-881-00	CARBON	120K	5%	1/4W
R666	1-249-439-11	CARBON	68K	5%	1/4W
R667	1-249-439-11	CARBON	68K	5%	1/4W
R668	1-247-874-11	CARBON	62K	5%	1/4W
R669	1-247-870-11	CARBON	43K	5%	1/4W
R670	1-247-880-11	CARBON	110K	5%	1/4W
R671	1-247-881-00	CARBON	120K	5%	1/4W
R672	1-249-439-11	CARBON	68K	5%	1/4W
R673	1-247-887-00	CARBON	220K	5%	1/4W
R674	1-247-874-11	CARBON	62K	5%	1/4W
R675	1-247-872-11	CARBON	51K	5%	1/4W
R676	1-249-439-11	CARBON	68K	5%	1/4W
R677	1-247-878-00	CARBON	91K	5%	1/4W
R678	1-247-876-11	CARBON	75K	5%	1/4W
R679	1-247-891-00	CARBON	330K	5%	1/4W
R681	1-249-432-11	CARBON	18K	5%	1/4W
R682	1-249-436-11	CARBON	39K	5%	1/4W
R683	1-247-860-11	CARBON	16K	5%	1/4W
R684	1-249-435-11	CARBON	33K	5%	1/4W
R685	1-249-439-11	CARBON	68K	5%	1/4W
R686	1-247-885-00	CARBON	180K	5%	1/4W
R687	1-249-436-11	CARBON	39K	5%	1/4W
R688	1-247-872-11	CARBON	51K	5%	1/4W
R689	1-249-434-11	CARBON	27K	5%	1/4W
R690	1-249-435-11	CARBON	33K	5%	1/4W
R691	1-249-439-11	CARBON	68K	5%	1/4W
R692	1-247-883-00	CARBON	150K	5%	1/4W
R693	1-247-870-11	CARBON	43K	5%	1/4W
R694	1-247-874-11	CARBON	62K	5%	1/4W

COVER
DISPLAY
HP
POWER SW
PT
REC EQ
SW (A)
SW (B)
REEL MOTOR

Ref. No.	Part No.	Description	Remark		
R695	1-249-433-11	CARBON	22K	5%	1/4W
R696	1-249-435-11	CARBON	33K	5%	1/4W
R697	1-249-439-11	CARBON	68K	5%	1/4W
R698	1-247-883-00	CARBON	150K	5%	1/4W
R902	1-249-433-11	CARBON	22K	5%	1/4W
R903	1-249-433-11	CARBON	22K	5%	1/4W
R904	1-249-417-11	CARBON	1K	5%	1/4W
R905	1-247-903-00	CARBON	1M	5%	1/4W
R906	1-249-441-11	CARBON	100K	5%	1/4W
R907	1-249-441-11	CARBON	100K	5%	1/4W
R908	1-249-441-11	CARBON	100K	5%	1/4W
R951	1-249-407-11	CARBON	150	5%	1/4W
R952	1-249-422-11	CARBON	2.7K	5%	1/4W
R955	1-249-420-11	CARBON	1.8K	5%	1/4W
R961	1-249-407-11	CARBON	150	5%	1/4W
R971	1-249-407-11	CARBON	150	5%	1/4W
R972	1-249-409-11	CARBON	220	5%	1/4W
R973	1-249-411-11	CARBON	330	5%	1/4W
R974	1-249-413-11	CARBON	470	5%	1/4W
R975	1-249-415-11	CARBON	680	5%	1/4W
R976	1-249-417-11	CARBON	1K	5%	1/4W
R977	1-249-420-11	CARBON	1.8K	5%	1/4W
R978	1-249-424-11	CARBON	3.9K	5%	1/4W
R981	1-249-407-11	CARBON	150	5%	1/4W
R982	1-249-409-11	CARBON	220	5%	1/4W
R983	1-249-411-11	CARBON	330	5%	1/4W
R984	1-249-413-11	CARBON	470	5%	1/4W
R985	1-249-415-11	CARBON	680	5%	1/4W
R986	1-249-417-11	CARBON	1K	5%	1/4W
R987	1-249-420-11	CARBON	1.8K	5%	1/4W
R988	1-249-424-11	CARBON	3.9K	5%	1/4W
R991	1-249-407-11	CARBON	150	5%	1/4W
R992	1-249-409-11	CARBON	220	5%	1/4W
R993	1-249-411-11	CARBON	330	5%	1/4W
R994	1-249-413-11	CARBON	470	5%	1/4W
R995	1-249-415-11	CARBON	680	5%	1/4W
R996	1-249-417-11	CARBON	1K	5%	1/4W
R997	1-249-420-11	CARBON	1.8K	5%	1/4W
R998	1-249-424-11	CARBON	3.9K	5%	1/4W

< VARIABLE RESISTOR >

RV301	1-238-547-11	RES. ADJ. CARBON 10K
RV351	1-238-547-11	RES. ADJ. CARBON 10K
RV401	1-238-547-11	RES. ADJ. CARBON 10K
RV451	1-238-547-11	RES. ADJ. CARBON 10K
RV541	1-238-952-11	RES. VAR. CARBON 5K (BIAS (DECK B))
RV561	1-241-133-11	RES. VAR. CARBON 50K/50K (REC LEVEL)
RV562	1-238-953-11	RES. VAR. CARBON 50K/50K (BALANCE)
RV571	1-238-085-11	RES. VAR. CARBON 20K/20K (PHONES LEVEL)

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S901	1-554-118-00	SWITCH. PUSH (1 KEY) (POWER)	
S951	1-554-303-21	SWITCH. TACTILE (BLANK SKIP)	
S952	1-554-303-21	SWITCH. TACTILE (AUTO PAUSE)	
S955	1-571-520-11	SWITCH. SLIDE (□□NR)	
S961	1-571-520-11	SWITCH. SLIDE (TIMER)	
S971	1-554-303-21	SWITCH. TACTILE (A+B REC)	
S972	1-554-303-21	SWITCH. TACTILE (SYNCHRO DUBBING HIGH SPEED)	
S973	1-554-303-21	SWITCH. TACTILE (SYNCHRO DUBBING NORM SPEED)	
S974	1-554-303-21	SWITCH. TACTILE (COUNTER RESET (DECK A))	
S975	1-554-303-21	SWITCH. TACTILE (COUNTER MEMORY (DECK A))	
S976	1-554-303-21	SWITCH. TACTILE (COUNTER RESET (DECK B))	
S977	1-554-303-21	SWITCH. TACTILE (COUNTER MEMORY (DECK B))	
S978	1-571-520-11	SWITCH. SLIDE (DIR MODE)	
S981	1-554-303-21	SWITCH. TACTILE (△OPEN/CLOSE (DECK A))	
S982	1-554-303-21	SWITCH. TACTILE (■(DECK A))	
S983	1-554-303-21	SWITCH. TACTILE (▷(DECK A))	
S984	1-554-303-21	SWITCH. TACTILE (◁(DECK A))	
S985	1-554-303-21	SWITCH. TACTILE (PAUSE ■(DECK A))	
S986	1-554-303-21	SWITCH. TACTILE (REC MUTE ○(DECK A))	
S987	1-554-303-21	SWITCH. TACTILE (◀◀(DECK B))	
S988	1-554-303-21	SWITCH. TACTILE (▶▶(DECK B))	
S989	1-554-303-21	SWITCH. TACTILE (REC ●(DECK B))	
S991	1-554-303-21	SWITCH. TACTILE (△OPEN/CLOSE (DECK B))	
S992	1-554-303-21	SWITCH. TACTILE (■(DECK B))	
S993	1-554-303-21	SWITCH. TACTILE (▷(DECK B))	
S994	1-554-303-21	SWITCH. TACTILE (◁(DECK B))	
S995	1-554-303-21	SWITCH. TACTILE (PAUSE ■(DECK B))	
S996	1-554-303-21	SWITCH. TACTILE (REC MUTE ○(DECK B))	
S997	1-554-303-21	SWITCH. TACTILE (◀◀(DECK A))	
S998	1-554-303-21	SWITCH. TACTILE (▶▶(DECK A))	
S999	1-554-303-21	SWITCH. TACTILE (REC ●(DECK A))	

< CERAMIC >

X901 1-577-359-21 VIBRATOR, CERAMIC 4.19MHz

* 1-632-741-11 REEL MOTOR BOARD

M1051 X-3356-638-1 MOTOR (REEL R) ASSY
M1052 X-3356-604-1 MOTOR (ASSIST) ASSY

< CAPACITOR >

C1051	1-124-907-11	ELECT	10uF	20%	50V
C1052	1-124-907-11	ELECT	10uF	20%	50V
C1053	1-164-159-11	CERAMIC	0.1uF		50V

REEL MOTOR

SENSOR

TRANSLATION

Ref.No.	Part No.	Description	Remark
		< CONNECTOR >	
CN1051	1-564-501-11	PIN, CONNECTOR 8P	
CN1052 *	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P	
CN1053 *	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P	
		< RESISTOR >	
R1051	1-249-414-11	CARBON 560 5% 1/4W	

	* 1-634-323-11	TRANSLATION BOARD	

		< CONNECTOR >	
CN1091 *	1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P	
CN1092 *	1-564-509-11	PLUG, CONNECTOR 6P	
CN1093 *	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P	
CN1094 *	1-564-506-11	PLUG, CONNECTOR 3P	

	1-638-161-11	SENSOR BOARD	

		< DIODE >	
D1091	8-719-950-74	DIODE SLR-314D-B	
		< TRANSISTOR >	
Q1091	8-729-809-43	PHOTO SENSOR SPS-314B-BE	

		MISCELLANEOUS	

9	△ 1-555-465-00	CORD, POWER (US)	
10	△ 1-555-795-00	CORD, POWER, EULO PLUG (AEP, Germany)	
11	△ 1-556-035-00	CORD, POWER (UK)	
D1001	8-719-980-85	DIODE SLF-325C	
M1001	X-3356-605-1	MOTOR (CAPSTAN R) ASSY	
S1001	1-466-525-11	ENCODER, ROTARY	
T901	△ 1-450-444-11	TRANSFORMER, POWER (WR875)	
T901	△ 1-450-446-11	TRANSFORMER, POWER (WR770)	

Ref.No.	Part No.	Description	Remark
		ACCESSORY & PACKING MATERIAL	

	1-559-533-11	CORD, CONNECTION	
*	3-354-913-01	CUSHION	
*	3-366-699-21	INDIVIDUAL CARTON (WR770)	
*	3-366-699-31	INDIVIDUAL CARTON (WR875)	
	3-703-450-01	INSTRUCTION (WR875)	
	3-753-345-11	MANUAL, INSTRUCTION (ENGLISH, FRANCE, SPANISH, PORTUGUESE) (AEP, UK)	
	3-753-345-21	MANUAL, INSTRUCTION (ENGLISH) (WR875)	
	3-753-345-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN) (AEP, Germany)	

HARDWARE LIST

# 1	7-682-547-09	SCREW +BVTT 3X6 (S)
# 2	7-682-548-09	SCREW +BVTT 3X8 (S)
# 3	7-682-547-04	SCREW +BVTT 3X6 (S)
# 4	7-682-548-04	SCREW +BVTT 3X8 (S)
# 5	7-621-849-00	SCREW (BV/RING)
# 6	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S
# 7	7-685-870-01	SCREW +BVTT 3X5 (S)
# 8	7-621-255-20	SCREW +BVTT 2X4 (S)
# 9	7-621-283-00	SCREW +BVTT 2X5 (S)
#10	7-621-255-35	SCREW +BVTT 2X5 (S)
#11	7-621-770-67	SCREW +BVTT 2.6X6 (S)
#12	7-685-131-19	SCREW +BTP 2.6X4 TYPE2 N-S

Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.